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Paper Industry Prepares to Maintain NRA Gains

Following Supreme Court Decision Apparently Terminating Statute and Codes, Leading Executives Express View That Industry Will Voluntarily Continue to Support Rules of Fair Practice—Present Wage and Salary Schedules Will Probably Remain In Force Until Further Notice—Associations Plan for Continued Functioning

By its unanimous decision in the Schechter case, announced on Monday of this week, the U. S. Supreme Court has invalidated those provisions of the National Industrial Recovery Act authorizing the President to prescribe and approve so-called Codes of Fair Competition. The effect of the decision is to terminate all codes heretofore issued under the Recovery Act.

Leading executives of the paper industry, as well as Code Authority administrators, are at present engaged in striving to salvage the worth-while features of their codes of fair competition.

Countless meetings are being held in an attempt to clarify the situation while awaiting advices from Washington regarding the outlook for Federal legislation to aid in their efforts.

The general feeling of leaders in the industry is that present wage and salary schedules will be retained for the time being and that the industry generally will continue to support those rules of fair practice which they have learned from experience will make for stability in the paper industry and that methods will be developed quickly to carry on voluntarily those business practices which have been demonstrated to be sound and wholesome.

Urges Voluntary Compliance

F. J. Sensenbrenner, president of the American Paper and Pulp Association, sent the following telegram to the secretaries of divisional associations, the Board of Governors and member mills:

"Though the Supreme Court decision has apparently terminated both the statute and the codes, we have known for two years that they would end on June 16 unless the law was extended. With this in mind the Executive Committee of the American Paper and Pulp Association has for months been working out plans for the continued functioning of the association.

"There may be a short period of uncertainty as to just what action will be taken by Congress and the Administration, but believing that much has been and will be accomplished by the splendid cooperation of the member mills, I most earnestly urge you to continue this cooperation until the atmosphere has cleared and an accurate course can be charted.

"If all mills continue their voluntary compliance with the spirit and letter of our code, it seems certain that the results to the industry will justify such efforts."

Newsprint Code Observance

A. L. Hobson, chairman of the Association of Newsprint Manufacturers of the United States, telegraphed the members of that organization, as follows:

"Following Supreme Court decision, NIRA chairman of National Industrial Recovery Board states that while compulsory enforcement of codes will be suspended, he hopes all employers operating under approved codes and their employees will cooperate in maintaining these standards of fair competition in commercial and labor relations carried in codes.

"The Newsprint Code has been helpful in stabilizing conditions in the newsprint industry and in the promotion of fair trade practices. It is to the best interests of the industry that in this period of uncertainty all members continue to follow code provisions."

Merchants Asked to Cooperate

The day following the Supreme Court decision on NRA, H. L. Zellerbach, president of The National Paper Trade Association of the United States, sent the following message to each of the officers and directors, the president of each constituent local association, and a number of other influential members of the association:

"Supreme Court decision reference NRA does not eliminate your responsibility to customers, employees and competitors to continue ethical trade practices and pay fair wages. Let us all hold the line and maintain the gains and good we have derived from our efforts to make the paper distributing trade the best in all industry. May I have your personal pledge to rally your colleagues and carry the banner forward."

On May 29, A. H. Chamberlain, executive secretary of the association sent another important message to the members, as follows:

"The Supreme Court decision annulling NRA definitely establishes a condition which many have regarded as imminent. It presents to The National Paper Trade Asso-

(Continued on page 22)

Newsprint Mill Planned for Prince Rupert

New Plant Expected to Produce Between 150 and 200 Tons of Newsprint and 100 Tons of Pulp Daily by Early 1937—Company Controls Approximately Five Billion Feet of Timber—San Francisco Capitalists Reported Behind Project

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., May 27, 1935—From Vancouver it is announced that a company known as the Mutual Pulp and Paper Mills has been incorporated, the leading spirit being F. L. Buckley, who states that a pulp and newsprint mill will be erected at Prince Rupert, B. C., which by the beginning of 1937 is expected to be producing between 150 and 250 tons of newsprint and 100 tons of pulp daily. San Francisco capitalists are said to be behind the project. Mr. Buckley says the company has five billion feet of timber under its control.

Higher Newsprint Prices Needed

The fact that two major newsprint producers—International Paper and Consolidated Paper Corporation—have during the week issued reports covering operations for the preceding twelve months has enabled interesting comparisons to be made. In both instances results have shown an appreciable improvement over the preceding year, yet it is held that in each case clear evidence is furnished of the need for higher newsprint prices. Such betterment as was achieved reflected a substantial increase in consumption and also to a marked degree economies effected in operations. Consolidated Paper reported net profit at slightly over a million dollars, against an operating loss of $235,000 in the preceding year. But this net profit was before depreciation, depletion, or interest on bonds. International Paper's net loss for 1934 at $2,413,866, contrasted with a net loss of $4,430,528 in the previous year. When it is noted that production of the Canadian newsprint industry in 1934, due largely to the sharp expansion in consumption in the United States, very closely approximated the peak year of 1929, it will be seen how vital is the matter of price to these companies.

Consolidated Paper Corp.'s Report

The third annual report of Consolidated Paper Corporation, Ltd., for the fiscal year ended March 31, 1935, shows that there was a profit from operation for the period under review, before depreciation, of $1,044,320, as against an operating loss of $235,141 in the preceding year, and a moderate betterment in balance sheet, position. Liabilities were reduced during the year by $723,039 and current assets were increased by $353,829. The report points out that since the reorganization, bank loans have been reduced by $6,536,900; Montreal Trust loan by $188,199; capital liabilities by $3,427,806 and bonds of subsidiary companies by $518,220, a total of $10,671,125.

L. J. Belnap, the president, in his report to the shareholders said:

"While the year 1934 showed an increase on paper consumption, the price still remains low, and no substantial benefit can accrue to the industry as long as the market price remains at the present level even though consumption may further increase. The indications of price improvement which appeared in 1934 proved unreliable as a continuance of unsound practices by some manufacturers made any increase impossible. Production costs throughout the industry are increasing as a result of higher costs of all kinds of material, labor and taxes. During the current year there will be an increase by United States railroads in freight rates to some points in the United States, which will adversely affect newsprint manufacturers."

Argentine Market for Blotting Paper

R. G. Smith, acting Trade Commissioner for Canada in Buenos Ayres, in reporting on the Argentine market for blotting paper says that last year's imports from the chief sources of supply of blotting paper into Argentina totaled 303,283 kilograms (one kilo equals 2.2 lbs.) as against 223,394 kilograms in the previous year. Following are the chief supplying countries, figures for 1932 being shown in parentheses: United States, 253,505 kilograms (112,940); United Kingdom, 23,820 kilograms (85,581); and Germany, 16,870 kilograms (15,875). Complete figures for 1934 are not yet available, but total imports during that year fell to 261,581 kilograms. The United States is by far the most important source of supply for foreign-made blotting paper. For many years the market has preferred the softer and thicker type of paper, while the usual stiffer and highly compressed English style of blotting paper is not as popular. In addition, the sales of United States papers are backed by a certain amount of advertising in the local papers. As far as the local industry is concerned, official estimates place the production at about 200,000 kilograms in 1934. The quality is, however, definitely considered inferior, so that the imported paper can be sold at higher prices in the local market.

Bagley & Sewall Install Machine at Shamokin

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., May 27, 1935—A machine 108 inches wide constructed at the local plant of the Bagley & Sewall Company, is being installed at the mill of the Rieser Company, Inc., Shamokin, Pa. Several novel features are embodied in the machine and it is especially adapted for the manufacture of cleaning tissues and cellulose wadding. The forming mould and vat construction is also of an improved design. Construction was carried on under the supervision of Kurt Wendel, consulting engineer.

Announcement is made that George B. Gibson has severed connections with the Bagley & Sewall Company and the company has discontinued its contract with the Sonbert Company, of Evanston, Ill., which he represented. Mr. Gibson came here as representative of the latter concern about two years ago following an agreement under which the local concern was to manufacture a special brand of paper machinery which the Sonbert Company marketed. He has not announced his future plans.

Rogers Paper Co. Buys Goodyear Plants

DANIELSON, Conn., May 27, 1935—The Rogers Paper Mfg. Co., Manchester, has purchased the plants and properties of the former Goodyear Cotton Mills Co., at Goodyear, from the Powdrell Associates, which acquired the entire village in 1833.

It was not made known when operations would be started or whether the Rogers Co. would abandon its three Manchester plants and concentrate activities at Goodyear.

Superintendents Convene at Marinette, Wis.

Spring Meeting of Northwest Division Attracts Record Attendance—E. A. Meyer, President and General Manager of Badger Paper Mills, Cites Factors Which Show Improved Business Volume—Fall Convention Awarded to Green Bay

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., May 27, 1935—Attendance records at spring meetings of the Northwest Division of the American Pulp and Paper Mill Superintendents' Association reached a new high figure when they assembled at Marinette, Wis., Saturday, May 18. The registration was well in excess of 200, and with the women guests added, the total went past the 400-mark. This increase was attributed to the presence of managers of many of the mills, who were especially invited by the various superintendents. The day was spent in discussions of problems, in listening to speakers, in outdoor amusements, inspection of local mills, and a banquet and dance. Mayor Richard P. Murray welcomed the visitors as the convention opened in the morning at Hotel Marinette.

One of the speakers was E. A. Meyer, president and general manager of the Badger Paper Mills, Inc., Peshtigo, Wis., whose mills have made an outstanding record for production during the entire depression period, and whose operations have been profitable each year. The mills are located only a short distance from Marinette.

Mr. Meyer cited factors which show an improvement in business volume, and added that there is bound to be an increase beyond the mere matter of business recovery. Statistics show that the normal increase in paper consumption is four per cent each year, he said. While there have been "hills and valleys" in the production graph, consumption has shown a steady increase for the last ten years.

Mill Managers Invited

Commenting on the new plan of inviting the managers, he said: "The relationship of the managers and superintendents is largely a matter of co-ordination and co-operation. Inviting the managers to this convention of superintendents will serve better to cement their co-operation, and will be the means of learning more about each other's problems." Mr. Meyer extended an invitation to all of the visitors to inspect the Badger mills, especially the new waxing department just completed.

A paper on "Stock Preparation" by John Cornell gave helpful ideas to his listeners. He used charts and pictures to illustrate his points, and described various processes of matting fiber into paper. His subject dealt with pulp processes and the weaving of fibers.

"One of the chief difficulties in paper making in the past has been the curl," said Mr. Cornell. "The introduction of an artificial honey into the process has practically eliminated this trouble."

Many of the managers were introduced by M. J. Ketter, of Green Bay, Wis., chairman of the Northwest Division. He asked each one to say a few words. They offered valuable information and suggestions. One of them, commenting upon present day regulation of the industry, urged a "square deal" instead of the "new deal."

Diversion for the afternoon included a skeet shoot, golf and yachting. The women were entertained at a luncheon and bridge, and a sightseeing tour.

The banquet in the evening was largely informal, with Horace Baker acting as toastmaster. Talks were given by officers and others, and an excellent entertainment program was presented. A dancing party followed.

The annual convention in the fall was awarded to Green Bay, Wis.

A. B. Hansen, manager of the Marinette and Menominee Paper Company, was general chairman of arrangements. He was assisted by the following chairmen: Registration, R. L. Murwin; meals and hotel, J. V. Ziemann; yachting, W. J. Faherkrug; golf, C. J. Thomas; prizes, J. J. Meyer; publicity, T. L. Christensen; mill visits, Rudolph Meyer; banquet program, M. J. Ketter; ladies' program, Mrs. A. B. Hansen.

News of the Trade

All of the corporate stock of the Edgewater Paper Company, Menasha, Wis., has been assigned by the probate court of Winnebago County to Gavin Young, Jr., and J. Dudleigh Young. They are sons of the late Gavin W. Young, Sr., president of the company, who made this stipulation in his will. The homestead was left to Gavin Young, Jr. The two sons will also share in the residue of the estate after specific bequests have been paid to other relatives.

Although Lisle Royale, in Lake Superior, is the object of a campaign by civic organizations to raise funds for its purchase, the Consolidated Water Power and Paper Company of Wisconsin Rapids, Wis., will proceed with its logging operations. Stanton W. Mead, treasurer of the company, issued a statement in which he said he did not think the part to be cut constituted enough of the whole to spoil the island as a prospective national park. The company owns about 4,700 acres of spruce and other timber there.

A. Lowenstein, of the Appleton Coated Paper Company, Appleton, Wis., was elected chairman of the Northeastern Wisconsin Section of the American Chemical Society at its annual meeting last week at the Institute of Paper Chemistry at Appleton. Sidney D. Wells, of the Combined Locke Paper Company, Appleton, was elected vice chairman, and Dr. Herbert L. Davis, assistant professor of chemistry at Lawrence College, Appleton, secretary. Dr. F. E. Brauns, who recently joined the staff of the Institute of Paper Chemistry, gave a talk on recent developments in the chemistry of lignin.

Paper Concerns Suffer Fire Losses

[FROM OUR REGULAR CORRESPONDENT]

TROY, N. Y., May 27, 1935—A large warehouse owned by the Albia Box & Paper Company on Pawling Ave. was damaged last week by fire during which the entire floor with 30 tons of water-soaked cardboard collapsed. The building adjoins the main structure and the blaze is believed to have been started by boys. The amount of the damage is not yet determined.

A storehouse occupied by the Snyder Paper Company at Cohoes was also damaged last week by fire to the extent of $35,000 in a spectacular fire. The flames were visible for miles around and large bales of paper stored in the structure burned for several hours. The origin of the blaze could not be determined but it is believed to have been caused by spontaneous combustion. Two large buildings adjoining the warehouse were also destroyed. The damage was not covered by insurance.

Philadelphia Paper Market Outlook Bright

Although Prevailing Business Conditions Are Rather Dull at Present, Due Mainly to Protracted Cool Weather, Basic Conditions Are Considered to be Slowly Strengthening—Early Start Anticipated for Usual Autumn Spurt In Demand

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., May 27, 1935—While there are many signs that basically business in the paper industry is slowly strengthening, conditions of the immediate present, as measured in day-to-day volume, are so concerned with the recent extension of the NRA that a sort of early summer dullness seems to be setting in in many lines, due in some measure to the protracted cool weather experienced this May month. However, unless something unforeseen occurs, there is every reason to expect a somewhat contra-seasonal uplift in the paper industry, which should make a correspondingly early start for the usual Fall spurt.

Association Activities

The Philadelphia Paper and Cordage Association, Inc. held its monthly meeting on Friday in the Rose Room of the Adelphia Hotel. The annual Spring Outing won the interest of the members, which was attested to by the presence of many for the first time in many months and the healthy interest manifested by them in the arrangements.

It was decided to hold the outing at the Manufacturers' Country Club, Oreland, on June 21. This affair has grown to such proportions year after year that many outside of the association, and their salesmen join in this annual celebration. A committee headed by E. K. Lay, was appointed to purchase prizes for the various events such as golf, tennis, quoits, etc.

The golf tournament will officially start at noon. Dinner will be served in the Club House at 6:30 p. m. to the strains of an orchestra which will be provided for the occasion. The large silver cup, presented to the association by the Schuylkill Paper Company, and won by E. L. Richards, of the Buffalo Envelope Company three times, and finally presented to the association by Mr. Richards, will be played for in the golf event. By returning the cup to be played for in competition, Mr. Richards has made possible increased interest in the golf tournament.

E. J. Durkin Discusses Sales

E. J. Durkin, in charge of window advertising and sales with the Hinde & Dauch Paper Company, Sandusky, Ohio, gave a most interesting talk on the important phase of selling. Mr. Durkin assembled many styles of display features, made entirely from corrugated products covered with vari-colored schemes to attract purchasers to window displays. All those in attendance were unanimous in their opinion, after listening to Mr. Durkin, that corrugated forms for display purposes open a new field in which paper merchants can add a productive line to their regular lines of paper products.

Among the statistics supplied by Mr. Durkin were noted the following facts: "In Pennsylvania, New Jersey, Delaware, Maryland and District of Columbia, there are 277,455 retail stores; the average store contains three windows—many windows are sub-divided into compartments. Accordingly, there are 682,365 windows in the above mentioned States that are possible outlets for display material. Windows are trimmed on the average of once a week. National advertisers spend about $21,000,000 annually. The average cost for decorating a window is $4. It is estimated that the average window display is seen by 18,000 people. Many people have developed a radio ear and subconsciously store up certain advertised trade names, heard on the radio programs—the titles of which are forgotten. When people, in walking along the street, read in window displays the names of these articles heard on the radio, they instinctively enter the stores and purchase the articles needed. Windows should be trimmed to sell merchandise and must have a tone value, and no confusion in display.

"Before the depression, great sums were expended for window displays." Mr. Durkin stressed the fact that the important things to be considered were first, beauty; second, massiveness and strength; then in order comes versatility of the material, but above all, the cost. It is on this subject that Mr. Durkin believes Hinde & Dauch Paper Company is qualified to interest the buyers. He also stated that man's vision was gradually developing from his first life on this world when the matter of protecting one's self from the enemy was paramount and by looking into the distance man's sight naturally became keener. He also stated that the human eye-ball is so constructed that one will notice a motion made on the side quicker than a motion made directly in front of the eye. The average time consumed in passing a window is 3 seconds; it then becomes necessary for a window decorator to have these facts in mind when endeavoring to attract prospective customers. Mr. Durkin also stated that about 40 per cent of the rental value of a store can be attributed to the location of the store—the busier the street, the higher the rental.

Drayton Joins Hooper Paper

William Drayton has recently joined the sales force of The Hooper Paper & Twine Company, 105 Church street.

G. R. Wallace Heads Merrimac Paper Co.

FITCHBURG, Mass., May 27, 1935—George R. Wallace of this city is president of the new Merrimac Paper Company, Inc., the new corporation which has taken over the mill of the Merrimac Paper Company in Lawrence.

Mr. Wallace, who is president of the Fitchburg Paper Company of this city, announced that all sales of Merrimac's products will be handled by the Fitchburg Paper Company sales organization.

Improvements to the plant are now underway and the machines will be particularly equipped to manufacture bond, offset, E. F. litho and specialties. Coating paper will not be manufactured as the coating end of the Merrimac company was not included in the assets of the organization when sold to the new corporation but remained the property of C. D. Thompson, president of the old Merrimac company.

Other officers in the new corporation are: Vice-president, John C. Jansen of Lawrence; treasurer, Arthur L. Bull of this city; sales manager, H. J. Simonds; superintendent, John T. Janson.

Offices of the new corporation are at Lawrence and 250 Park avenue, New York City.

Toronto Paper Market Conditions Improving

During First Five Months of Year Volume of Paper Business In Aggregate Was From Five to Twenty Per Cent Higher Than In Corresponding Period Last Year—Rag and Paper Stock Section Steady, With Demand Fairly Active

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., May 27, 1935—Business in the paper market, which has been rather spotty for several weeks, now shows some signs of improvement and distributors are in a better frame of mind, although they would like to see more orders in regular succession. During the past month there were two or three holidays which interfered with the regular channels of trade. Manufacturers and wholesalers are looking for better results in June and there are omens that their confidence will not be misplaced. For the first five months of this year, business is in the aggregate from five to twenty per cent over the corresponding period of 1934 with most concerns. The rag and paper stock market is steady, with a fair demand. Collections still feel the spring impulse and sales are up in proportion. Inventories of low grades are heavy but coming down.

Strathcona Mill Established 60 Years

The Strathcona Paper Company, Strathcona, Ont., is one of the oldest concerns in Canada, being established sixty years ago. The mill is owned by W. J. Finlay, who has associated with him his two sons. For several years the plant manufactured its own pulp from basswood by the soda process but today all the material is purchased in the form of waste paper and is reworked. Further extensions are now being considered and a sprinkler system of the most modern type was installed recently. The company maintains offices in Montreal and Toronto and, during the years of depression, the plant has been able to carry on with very little lost time. The company makes board of various kinds and heavy paper for boxes. In earlier years both wrapping and newsprint were manufactured. In 1878, the Strathcona Paper Company made the first roll newsprint used by the *Toronto Globe*.

News of the Industry

At a recent meeting of the Trades and Labor Council held at Kenora, Ont., the Ontario government and the Department of Lands and Forests came in for some severe criticism in reducing the crown dues on spruce pulpwood and abolishing the export dues of twenty-five cents a cord. The members stated that they felt this to be a direct blow at the Canadian pulp and paper industry as it opened the way for the destruction of the forest resources of the province of Ontario. While it might find employment for some workers at the present time, Canadians stood to lose more than they could ever hope to gain by opening up wooded assets to inroads of irresponsible people and, in the final analysis, it would place the Kenora plant at a disadvantage with mills in the United States.

Canada's trade relations with Japan have been the subject of consideration at Ottawa with respect to lumber, pulp and paper. According to the Hon. T. D. Pattullo, Premier of British Columbia, the pulp and paper manufacturers of that province are threatened with the loss of three million dollars in orders by the reported Japanese proposal to erect a tariff barrier against Canadian imports as a retaliatory measure against Canadian duties on Japanese goods. The Dominion has been asked to investigate the matter. Pulp company officials told Premier Pattullo that orders now on their books might be transferred to United States concerns if Japan carried out its threat to limit Canadian imports. The total trade of British Columbia last year with Japan was $8,800,000 which was more than half the total for all Canada. Pulp and lumber products form a large proportion of this business.

In connection with the recent announcement that the British Columbia Pulp and Paper Company, Ltd., who have plants at Woodfibre and Howe Sound, had resumed the payment of bond interest, Lawrence Killam, president of the company, advises that the resumption of payments on the general mortgage bonds does not indicate further earnings improvement. While 1934 earnings were considerably better than 1933 ($706,833 against $404,072) due to improved conditions during the early months of the year, the trend of prices for pulp in the latter part of 1934 and this year up to the present, has been downward. There has been a cut this year of five dollars per ton on one type of product and four dollars on another. The company is maintaining its share of business in the Orient but here again prices are subject to competitive conditions, says Mr. Killam.

Five hundred men are at work on the Abitibi Power and Paper Company's drive in the Sault Ste Marie area in Ontario bringng 100,000 cords of wood down the Michipcoten and Agawa rivers. The pulpwood is all intended for use at the Sault plant as well as 50,000 cords, which have been cut by settlers in the district. The Sault mill has been very busy on newsprint for many months and has orders ahead which will keep it busy for a long time.

The Garden City Paper Company, St. Catherines, Ont, of which Richard Carroll is manager, are erecting a new boiler house and three other buildings. The work is now in progress and good headway is being made.

Peter Heenan, secretary of the Department of the Lands and Forests of Ontario, and Thorsten Ehn, director of woods operations for that department, are on a month's tour of inspection of all the Crown timber agencies in the northern part of the province. While away they will inspect flying and other fire protection and prevention operations. Several changes, it is reported, may be made in the outside service of the Lands and Forests branch in an effort to cut down administrative costs.

Crocker-McElwain To Buy Steam

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., May 27, 1935—Steam for the operation of the paper mill of the Crocker-McElwain Company of this city will be furnished by the municipal lighting department as soon as a pipe line can be completed from the municipal steam plant to the paper mill. This it is expected will be completed by June 1.

About a month ago there was an accident to the coal handling department of the paper mill which necessitated the rebuilding of that department or the purchase of steam as the boiler plant was in need also of renovation. After a careful study it was decided that steam would be bought. The annual cost is figured at $40,000. It will probably be about a year before the boiler and coal handling plants are ready for business.

Chicago Paper Market Conditions Rather Spotty

Kraft Paper Section Displays Increased Strength—Some Improvement Noticed In Demand for Ground Wood Papers—Supplies of Bond and Ledger Papers Moving Slowly—Position of Book and Cover Papers Unchanged—Board Market Practically Stationary

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., May 27, 1935—The Chicago paper market presents a spotty appearance this week although the general trend seems to be toward a slow but continuous retrenchment as the summer months approach. Most important of the features noted in the report is in relation to the increased strength of the kraft market. Groundwoods also showed some betterment during the past week although there was considerable unevenness in this condition. Bonds were reported as slower, while ledgers also indicated some recession. Books and covers showed no change over the previous week. The board market was also practically stationary. Waste papers were, for the most part, inactive. Only in a comparatively few of the higher grades was any appreciable tendency toward volume reported.

New Roofing Paper Plant

An appreciable addition to the paper industry in Illinois is reported in the news that a new company, the Rockton Felt and Paper Company, will open a new plant at Rockton, Ill., within the next thirty days. About five hundred tons a month of roofing paper will be produced by the concern which has acquired the plant of the American Tar Products Company and will utilize the full 50,000 square feet of floor space in roofing paper production. The plant, a combination one and two-story structure, is situated on a fifteen acre lot with ample transportation facilities and is modern in every detail.

A. E. Sandroff, president of the Thomas Paper Stock Company, paper makers supplies, is one of a group of executives who purchased the plant and are backing the big development. The Thomas Paper Stock executive, well known in the paper supply industry, has announced that the Rockton plant will be under the personal supervision of J. P. Furlong, who will act in the capacity of general superintendent. Mr. Furlong has had a good many years of experience in the manufacture of roofing papers both at Joliet and East St. Louis, Illinois.

News of the Industry

A record breaking attendance skyrocketing over the seventy mark, featured the initial golf outing of the Mid-West Division of the Salesmen's Association of the Paper Industry held on May 24 at the Westmoreland Country Club. Lunch, dinner and golf arrangements for the huge crowd was taken care of by Ben Babbitt, Brown Company, who seems determined to set attendance records during the summer golf season of the Sapeyes.

It seems to have been left to a downstate Illinois paper house to provide a striking example of ways and means of perfecting a sales force through bringing it closely in contact with mill production and mill paper problems. Earlier this month the Capital City Paper Company of Springfield, Ill., loaded 22 salesmen and executives into five automobiles and headed for the three important paper centers of Ohio. The salesmen took full advantage of the annual trip to check up on how paper was being made by Capital City mill connections; received some new ideas on paper selling and really included a liberal education along with the enjoyable trip. The annual treks to the mills are considered by C. E. Roach, president of the company, as invaluable methods of building sales organizations and retaining profitable and friendly mill relationships.

Dwight Brothers Paper Company, Chicago distributors of Uncle Sam Bond, manufactured by the Hawthorne Paper Company, is receiving the current benefits of the latest direct mail piece on Uncle Sam bond which has the meritorious heading "Now is the opportune time to step up sales and profits by stepping up quality." The copy on the quality motif is especially good. A "window" method of calling attention to the swatch sheet carrying green, russet, gray, pink and goldenrod colors, is also effective. The Uncle Sam Portfolio "Letterheads with a Wallop" is offered to distributors and users.

Dexter Brown, son of the former president of the Rhinelander Paper Company, and identified with a family long known in paper trade circles, has accepted a sales position in the Chicago offices of the Cherry River Paper Company, 111 West Washington street, where he will assist Joe Heyer, manager, in developing Cherry River sales in this territory. Mr. Brown has had former paper sales experience in his associations with George K. Gibson, of the Mosinee Paper Mills, and with the Advance Bag and Paper Company. He will take the place of J. H. Coy, Jr., recently transferred to the Eastern offices of the company and already producing excellent results.

The Chicago kraft executives and the members of the Chicago Paper Association are casting longing eyes at the events schedule which slates the annual meeting of the Middle States Wrapping Paper Association for French Lick Springs on June 25 and 26. Quite a Chicago delegation is expected to attend the morning business sessions, the golf sessions and the big convention dinner scheduled for the evening of June 26. One of the most important meetings during the two-day meeting is expected to be the joint meeting of merchants and manufacturers to be held the morning of June 26 at which time mutual public relations and market problems will be fully discussed.

Brotherhood Wants Import Restrictions

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 29, 1935—Senator Bone, of Washington, introduced in the Senate last week a petition of several hundred members of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers which was referred to the Finance Committee and is as follows:

"In recognition of the importance of the pulp and paper industry to the people of the State of Washington and the United States and that due to the importation of newsprint and pulp from Canada, Sweden, and Finland with lower living and wage conditions, which has caused a reduction in prices paid for similar products manufactured in our country, we, the undersigned citizens and employees of Everett and vicinity, respectfully petition that you use the powers granted you under the NRA to stop this importation detrimental to our labor and business.

"This petition is sponsored by Everett Local No. 183 of the International Brotherhood of Pulp, Sulphite, and Paper Mill Workers."

Demand for Paper Moderately Active In Boston

Fine Paper Business Falls Off Slightly—Request for Wrapping Paper Slightly More Active—Paper Bag Conditions Somewhat Spotty—Lower Grades of Paper Stock Steadier Than of Late—Brown Co. Makes Window Display of Solka Pulp Products

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., May 27, 1935—Demand for paper in Boston and environs averaged fair last week. In some quarters, business in fine papers fell off a bit, with the approach of the summer season. The call for wrapping paper was moderately good. There was a little more activity in specialties, such as paper towels, napkins, etc. The paper bag situation was somewhat spotty. Box boards remained quiet.

Some grades of paper stock were strong, others weak. There was less demand for solid ledger books, in which the price declined to 1.60 from 1.75, and for mixed ledgers, in which the value receded to .90 @ 1.00 from .95 @ 1.05. Mixed papers and old newspapers were very quiet, but prices held exceedingly well in the Boston market. Demand for bagging of all kinds was active. Prices of new domestic rags held firm, especially for shirt cuttings, such as silesias, and also for denims. Old domestic rags were very quiet, but strong, roofing rags particularly so. Some foreign rags are being imported, such as linens and the higher grades of cotton cuttings.

Big Solka Display

A window display of products containing Solka, made by the Brown Company, of Portland, Me., is being held at the department store of the Jordan Marsh Company. The display occupies six windows, two on Washington street and four on Avon street, showing a wide variety of products, including parchment, kitchen towels, baby pads, Patapar paper for kitchen use, patour tissue, cleansing tissues, handkerchiefs, napkins, compartment plates, kitchen clocks, poker chips, sports belts, swavette or Lacquord bags, lacquord hats, radio sets, mesh curtains, suit cases and games. One window shows replicas of the shoes and bag presented to Princess Marina at the time of her wedding to the Duke of Kent.

Logging scenes, the wood used as raw material and the purified cellulose are also displayed. Inside the store is another display, from which customers are directed to the various departments where the merchandise made of Solka may be purchased. The industry possesses a forest bigger than the state of Connecticut, which furnishes raw materials used in 36 major industries.

Paper Merchants Hold Field Day

The Annual Field Day and May meeting of the New England Paper Merchants Association, held at the Longmeadow Country Club, Springfield, Mass., May 21, was attended by 44. The occasion was a highly enjoyable one, with fair skies and a delicious luncheon. At the business meeting, called to order by President William N. Stetson, Jr., there were brief talks by F. Bendel Tracy, vice-president of the National Paper Trade Association and Arthur H. Chamberlain, secretary of the same body. Discussion on various trade subjects followed. After luncheon was golf and other outdoor sports, including tennis, barnyard golf and bowling on the green. The success of the affair was due to the efforts of Jack Whitney, of Whitney Anderson Paper Company, Springfield, chairman of the committee of arrangements. "Such meetings do much to cement a better feeling and create more confidence among our members."

News of the Trade

The May-June issue of the John Carter Sampleteer, from John Carter & Co., Inc., contains a picture of H. Bertram Harwood, manager of the Connecticut warehouse of the concern at Hartford, a member of the organization for 31 years. Under Mr. Harwood's direction, the warehouse was opened in 1924, in order that the company might better serve its Connecticut and Western Massachusetts customers. It is more than a branch, as it is a complete warehouse in itself, occupying more than 14,000 square feet. Besides the editorial paragraphs, the Sampleteer contains basic paper sizes of bond, writing, ledger, onion skin, book paper, index Bristol, Bristol board, cover paper, blotting, tissue paper for wrapping and newsprint. The issue gives a list of Dill & Collins lines. The cover is printed on White Dilfoil Enamel and the editorial section on Flat White.

Miss Lucille Abbott Cate, daughter of Frank C. Cate, of the Andrews Paper Company, and Mrs. Cate, of Ellis avenue, Reading, Mass., was married Tuesday evening to Ernest Carl Conti, son of Mr. and Mrs. Frank Conti, of Minot street, Reading., in the rectory of St. Agnes Church, that place. The Rev. Joseph A. Brandley officiated. The bride wore her mother's wedding gown of sheer muslin and lace with a headdress of orange blossoms and carried a bouquet of spring flowers. Miss Natalie Cate, sister of the bride, was maid of honor and Arthur Conti, brother of the bridegroom, was best man. A reception was held at the Cate home. After June 1, Mr. and Mrs. Conti will be at home at 360 Riverway Drive.

Norman Kimball, of the Martin Cantine Company, Saugerties, N. Y., entertained the sales force of Knight, Allen & Clark, Inc., at dinner at the Parker House, Thursday evening. After dinner, Mr. Kimball gave an interesting talk on Martin Cantine Coated, for which Knight, Allen & Clark are distributors.

Colonel Edgar Smalley, managing director of Edwin Butterworth & Co., Ltd., Manchester, England, of which E. Butterworth & Co., Inc., is the American branch, arrived Monday on the *Laconia*, expecting to be in this country two or three weeks. He is staying at the Hotel Bellevue. Colonel Smalley reports conditions better in England than they are here.

Maurice Blackmur, a department manager of the Storrs & Bement Company, has gone on a trip, visiting Providence, Hartford and New Hampshire.

I. L. Gartland, sales manager of the D. M. Bare Paper Company, Roaring Spring, Penna., passed last week with C. H. Dodge, a representative of that concern.

J. S. Miller, secretary and assistant treasurer of the New Haven Pulp and Board Company, New Haven, Conn., and W. G. Shortess, president of the Federal Paper Board Company, Bogota, N. J., accompanied by Howard T. Brown, vice-president, general manager, and purchasing agent of the Inland Paper Board Company, Versailles, Conn., were in town last week.

Delaware Valley TAPPI Division Discusses Lacquer Coatings

The Application of Nitrocellulose Lacquer Emulsions to Paper was the subject presented by C. B. Hollabaugh of the Research Department, Hercules Powder Company, Wilmington, Del., to the Delaware Valley Section of the Technical Association of the Pulp and Paper Industry at the Engineers Club, Philadelphia, Pa.; Friday evening, May 24, 1935. This presentation was the first on the subject to be given in public, and pointed to a new trend in the development of coated papers that has been given an impetus by the requirements of the packaged goods industries.

Dr. Hollabaugh indicated that the basic principles of emulsifying nitrocellulose and applying it to paper are simple and should not be expensive once the proper formulation and procedure for a given set of conditions has been worked out.

Some experimenting is, of course, necessary to determine the proper emulsion for a particular use. This experimenting can be reduced to a minimum by considering the following limitations:

1. The solvent mixture used in the lacquer phase must be sufficiently water-immiscible to keep the nitrocellulose in solution in the emulsion, and it must remain so as it evaporates during the drying of the film.
2. The boiling range of the solvent mixture must be high enough to allow the water to be removed from the film by evaporation, or absorption by the surface being coated, before sufficient solvent evaporated to prevent the droplets of lacquer from coalescing and flowing into a smooth film.
3. The amount of the water solution of emulsifying agent must be kept low to avoid the necessity of using expensive high boiling solvents in the lacquer phase, and to allow adjustment in the viscosity of the final emulsion.
4. The emulsifying agent, and the concentration used must be selected to avoid making the final film water sensitive or hazy.

Nitrocellulose emulsions are quite versatile, in that practically all of the usual lacquer ingredients can be used, making it possible to "tailor-make" a coating to fit any particular set of specifications.

Tests indicate that the viscosity or body of the emulsion and the drying time can be regulated so that the emulsion can be applied on a variety of coating equipment.

The solid content can be changed so as to produce any desired thickness of coating.

Compared to a conventional pyroxylin solution of lacquer, the emulsion uses much less solvent per pound of solids applied.

Penetration of porous papers can be avoided without special treatment of the surface of the paper and thin continuous (non-porous) coating can be applied.

Lacquer emulsions can be made at a suitable viscosity for doctor blade application.

Officers Elected

The candidates of office as proposed by the nominating committee at the last meeting were considered and unanimously elected. They are as follows: Chairman—H. P. Cannon, Container Corporation of America, Manayunk; Vice Chairman—H. C. Schwalbe, Dill & Collins Inc., Philadelphia; Secretary-Treasurer—C. M. Connor Glassine Paper Company, Conshohocken, Pa.; Executive Committeemen—G. E. Landt, Continental Diamond Fibre Company; and D. Manson Sutherland, Consulting Engineer, Trenton, N. J.

An Audit Committee consisting of Morton Cooper and A. J. Luettgen was appointed to inspect the books of the treasurer.

June Meeting

Jacob Edge of the Downingtown Manufacturing Company reported on plans for the final Jamboree to be held on June 21. Further notice of this affair will soon be made public.

Those Who Attended

Among those present at the meeting were the following: J. D. Miller, York Haven Paper Company, York Haven, Pa.; Joseph Razek, University of Pennsylvania, Philadelphia; M. Craig Maxwell, McDowell Paper Mills, Manayunk; H. L. Becher, Agasote Millboard Company, Trenton, N. J.; L. M. Sutherland, Sloane-Blabon Corporation, Trenton; A. E. Waugh, U. S. Rubber Company, Philadelphia; A. W. Wickham, Mac Andrews & Forbes Company, Camden, N. J.; A. J. Luettgen, P. H. Glatfelter Company, Spring Grove, Pa.; J. Carl Schmidt, Du Pont Company, Philadelphia; Jacob Edge, Downingtown Manufacturing Company, Downingtown, Pa.; J. C. Dieffenderfer, Paper Makers Chemical Corporation, Easton, Pa.; H. P. Taber, Wilmington, Del.; J. J. McDonald, Brown Company, New York; D. Manson Sutherland Jr., Trenton; C. A. Shubert, Dill & Collins Inc., Philadelphia; John Roslund, Moore & White Company, Philadelphia; C. M. Connor, Valley Forge Laboratories, Conshohocken, Pa.; George Heidrich, Wallace & Tiernan Inc., Philadelphia; S. D. Reynolds, Container Corporation of America, Manayunk; W. E. Brow, Container Corporation of America; W. P. Quinn, same company; L. F. Derr, Philadelphia; Lois V. Hans, Pettengill Inc., New York; R. M. Bates, Thomas M. Royal & Co., Philadelphia; F. J. McAndrews, McDowell Paper Mills, Manayunk; H. D. Childers, Thomas M. Royal & Co.; Charles McDowell, McDowell Paper Mills, Manayunk; Charles W. Rivise, Philadelphia; J. H. Fritz, National Oil Products Company, Harrison, N. J.; F. L. Stiegler, National Vulcanized Fibre Company, Newark, Del.; R. M. Cobb, Lowe Paper Company, Ridgefield, N. J.; G. E. Landt, Continental Diamond Fibre Company, Bridgeport, Pa.; Mr. Speicher, Hercules Powder Company, Wilmington; H. P. Cannon, Container Corporation of America, Manayunk; R. G. Macdonald, Secretary of TAPPI, New York; J. d'A. Clark, Scott Paper Company, Chester, Pa.; J. C. Harper Jr., West Jersey Paper Manufacturing Company, Camden, N. J.; C. B. Hollabaugh, Hercules Powder Company, Wilmington; H. W. Alden, Lowe Paper Company, Ridgefield, N. J.; W. C. Jay, Sanitary Products Corporation, Philadelphia; G. B. Martin, General Dyestuff Corporation, Philadelphia; Leslie Justice, Container Corporation of America, Manayunk; Kenneth Rose, P. H. Glatfelter Company, Spring Grove; C. A. Bentz, same company; Adolf Schnable, Mazer Paper Company, Lansdowne, Pa.; G. R. Haggerson, Paper Makers Chemical Corporation; and C. P. Barker, Container Corporation of America, Manayunk.

Obituary

Arthur E. Ham

BOSTON, Mass., May 20, 1935—Arthur E. Ham, a former president of the New England Paper Merchants Association for two years, a former member of the Boston Paper Trade Association, and head of the Ham Paper Company, died Saturday at his residence, 8 Fairview Terrace, Somerville, Mass., in his 63rd year, after an illness of six weeks.

Mr. Ham was well and favorably known in the paper trade for about 45 years. He was active in all branches of the graphic arts and a few years ago was an official of the Graphic Arts Exposition in Mechanics Building. He was born in Boston, September 23, 1872, the son of Elias and Martha (Jones) Ham. His parents removed to Winter Hill, Somerville, where he had lived for the last 58 years.

After graduation from the Somerville High School, he took a position as office boy 44 years ago with Storrs & Bement Company. Through diligence and efficiency he became president of that concern in 1915, a position which he held until 1920. That year he resigned as president, selling his interests, and founded the firm of Arthur E. Ham & Sons, with offices in the Rice Building, 10 High street. In 1934, he organized the Ham Paper Company, continuing in the same building.

He was a member of the Somerville Lodge of Masons and a director of the Eastern Commercial Travelers Health and Accident Associations.

Mr. Ham was a true friend and held in warm affection by all.

Surviving him are three sons, Herbert C. Ham, who has been with the Worthy Paper Company nearly a year and a half; A. Lawrence Ham, associated with the Ham Paper Company, both of whom lived with their father, and James L. Ham, of Scituate, Mass., representative of the Sabin-Robbins Paper Company, who occupies the same office with the Ham Paper Company; a brother, Herbert J. Ham, of Brookline, Mass., and two sisters, Miss Mabel Ham and Miss Florence Ham, both of Somerville. His wife, Mrs. Helen (Coleman) Ham, died fourteen months ago.

The funeral services were held at the home in Somerville today at two o'clock, with a number of the paper trade attending. The burial was in Wyoming Cemetery, Melrose, Mass.

Robert L. Jacobs

MONROE, Mich., Robert L. Jacobs, assistant treasurer of the River Raisin Paper Company and associated with the company in various official capacities since coming to Monroe in 1910, died Sunday, May 19, in the Methodist Memorial Hospital at Indianapolis, Indiana.

Mr. Jacobs was born in La-Fountain, Indiana, on December 25, 1869, and spent his boyhood in that vicinity. He moved to Wabash, Indiana, as a young man and there married Miss Maude Reed, who survives him.

He came to Monroe in November, 1910, as plant superintendent. Buildings were then in process of construction. During his long connection with the company he occupied most of the executive positions from box factory superintendent to assistant treasurer. He was sales manager for a number of years.

Enlisting in the Spanish-American War in 1898, Mr. Jacobs became captain of Company L of the 158th Volunteer Infantry at Kokomo, Indiana.

Although never occupying an office Mr. Jacobs was identified with Masonic work for many years. He was a member of the Masonic Lodge No. 27, F. and A. M.; the River Raisin Chapter No. 22, R. A. M.; the River Raisin Council No. 4, R. and S. M. and Monroe Commandery No. 19, Knights Templar. He was also a member of the Moslem Shrine of Detroit, Monroe Country Club and the old Monroe Yacht Club.

Spencer Lathrop

Spencer Lathrop, of 584 Warburton Avenue, Yonkers, N. Y., died May 15 in St. John's Hospital, after a brief illness, at the age of 70. He was president of the Lathrop Paper Company, at 155 Perry street, New York, and had been an executive in the wholesale and retail paper business for forty years.

He began his career of more than forty years in the paper business in 1891 with Molleson Bros. Paper Company, at 18 Beekman street. Later he joined the firm that became known as Lasher & Lathrop, which had originally been founded in 1868. In 1927 the name was changed to Lathrop Paper Company.

Mr. Lathrop was born in West Bridgewater, Mass., of an old New England family. He passed his youth in North Salem, N. Y., and married Miss Fannie W. Hunt, who survives. Two sons, Thomas and Frank, and a daughter, Mrs. Marjorie Traub, also survive.

Thomas Gitsham

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., May 18, 1935—Thomas Gitsham, for many years prominent in the paper industry of Northern New York, died this week at his home following a brief illness. He was born in Devonshire, England, in 1858. Coming to this country when a youth he went to Ballston, where he was made manager of the plant operated by the Union Bag and Paper Company and when the business was transferred to this place in 1905 he was made superintendent of the bag factories. He held that position until a few years ago when advancing age caused his retirement. Recently he declined the mayoralty nomination here. The principal survivors are his wife, three sons and four daughters.

Mrs. Annie M. Waite

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., May 28, 1935—Harrie E. Waite, merchandise manager of John Carter & Co., Inc., general paper merchants, of this city, has the sympathy of the paper trade in the passing of his wife, Mrs. Annie M. Waite, May 26, at her residence, 47 Hillside road, Watertown, Mass., after an illness of five months. She was 68 years old.

Mrs. Waite was a native of Fayston, Vt. She was married to Mr. Waite 45 years ago. Previous to their coming to Watertown, where they have lived seventeen years, they resided in Concord and Lebanon, N. H.

Surviving Mrs. Waite are her husband; two sons, Clayton T. Waite, of Concord, N. H., and Moses I. Waite, of Little Neck, L. I.; a daughter, Miss Louise Eddy Waite, of Watertown; two sisters, Mrs. W. H. Hatton, of Gardner, Mass., and Miss Alice E. Waite, of Watertown; two brothers, George L. Taylor, of Milton, Mass., and Fred E. Taylor, of Spencer, Mass., and seven grandchildren.

The funeral was held in Phillips Congregational Church, of which Mrs. Waite was an active member, Tuesday afternoon, with members of the trade attending.

PAPER INDUSTRY PREPARES TO MAINTAIN NRA GAINS

(Continued from page 13)

ciation and its constituent locals not only an unprecedented opportunity but an obligation. Every preparation has been made to meet it.

"The intelligence and stability of the paper trade throughout the depression has set an example for other distributing groups. Its morale must be maintained. No thinking paper merchant, however, selfish, would wish to contemplate the devastating effects of abandoning the organized agencies through which, irrespective of Code activities, fair competition, sound trade practices and orderly marketing have been promoted for so many years. It is only necessary to continue your cooperation and support.

"Governmental regulation has failed us but has educated us to do a better job. We have learned a lot of things, one of which is that voluntary cooperation is more effective than attempted compulsion. Our organization is perfected, our field is better defined, our office is better equipped, our executives and committees are more efficient than ever before. By proper effort, our membership can be increased to include every recognized distributor of paper and paper products.

"No one questions the sincere and conscientious efforts of the men you employ. Your officers and committees serving without compensation pledge you their unselfish and untiring devotion to their duties but their accomplishment depends on your individual support. Your own welfare is contingent on holding up their hands. Pitch in and do your share.

"Fortunately, manufacturers are equally well organized. Much depends on the wisdom and equanimity with which they meet this crisis. They should have your encouragement and their problems should be considered identical with your own. Destructive buying policies only tend to cause losses which you yourself must share. Within a few hours, we have contacted executives of most of the manufacturing groups and have the most positive assurance that they will continue to function vigorously and that courageous and constructive policies will be maintained."

Labor Provisions

Communications are being received by the PAPER TRADE JOURNAL from members of the paper industry advocating the continued observance of the wage scale and the minimum hours of employment provided in the Codes of Fair Competition.

E. Pulman, president of the United Gummed Products Company, Inc., Brooklyn, N. Y., writes as follows:

"Despite the decision of the United States Supreme Court, it is our purpose, until compelled by extreme circumstances, to observe the wage scale and the maximum hours of employment as were provided in the Code of the Gumming Industry. Until we can ascertain the attitude of the Industry all prices are withdrawn forthwith."

Arnold Jacoby, of the Kraftliner Gumming Corporation, of Mobile, Alabama, writes as follows:

"This is to inform you that this company, despite the absence of a legal obligation, because of the decision of the U. S. Supreme Court as to the legality of the N.R.A., will continue to observe the minimum wage scale and maximum hours of employment as were set out in the Code of the Gumming Industry. This it will continue to do until extreme circumstances make a change necessary.

"Furthermore, it desires to inform you that it is today withdrawing all filed or published prices until it can determine what effect the Court's decision has upon our Industry. Innumerable opinions have been indicated, and for the next few days, at least, until we can ascertain the position of the Industry, we have completely withdrawn from the market.

"We will, in the meantime, continue to manufacture under the conditions above set forth."

Ruling Surprises NRA Officials

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 29, 1935—At no time since the declaration of war has the Capitol City been in as hectic a condition as it was on Monday following the decision of the Supreme Court of the United States declaring NRA unconstitutional. Government officials, apparently taken completely off their guard, were just running around in circles.

When the famous gold decision was handed down the administration was apparently ready for any contingency —but when this decision came down the government was apparently asleep at the switch. Yet many government officials had been predicting that the Blue Eagle organization would be declared unconstitutional. However, they neither expected the unanimous decision, nor did they think of such a drastic one.

The laugh is certainly on Donald Richberg. Not so many weeks ago he called the Washington correspondents into conference, told them why the government had decided not to press the Belcher Lumber Company case and told them what a marvelous case the government had in the Schechter case. He went the whole length commenting that a decision would settle the constitutionality once and for all—and thought very definitely that the decision would be favorable. It has proven him not so good—either as a guesser or a lawyer—inasmuch as he handled some of the argument in the case for the Department of Justice.

The Supreme Court's ruling dealt specifically with section 3 of the NRA act in which Congress delegated to the President the authority to make codes.

The court held that this authority had not been sufficiently limited or defined. The decision stated that "where transactions have merely an indirect effect on inter-state commerce the control rests with the states."

The decision emphasized the fact that Congress cannot delegate to the President the right to do whatever he thinks desirable. The court held that Congress had not specified adequate restraints on the President and stated that, "the President in approving a code may add to or substract from the provisions. Section three is without precedent. It sets up no standards aside from general aims."

It was also held by the court that "where the transactions are merely indirect or interstate commerce, the control rests with the states."

Union Bag to Build Mill at Savannah

A press dispatch to the New York Times under date of May 28 states that "The Union Bag and Paper Corporation of New York, manufacturers of bags and other products made from wood pulp, announced today through its president, Alexander Calder, the closing of a contract for the erection of a $4,000,000 plant here. The plant will be on the old Hermitage plantation, using also the site of the Diamond Match Company.

Committee Defers Paper Awards

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 27, 1935—The Joint Congressional Committee on Printing met today and adjourned immediately without making any awards on paper for the Government Printing Office for the six months' period beginning July 1 next, bids for which were opened on May 20. The committee expects to meet on Friday to consider making awards.

It was impossible for the Joint Committee to make any awards today because the Government Contract Division of NRA had not completed its investigation of some of the low bids received, which are claimed to have been more than 15 per cent below the filed code price.

The Paper Code Authority is complainant against several firms, whose names were not made public, because their bids are said to have been too low. The companies have been given an opportunity to make an explanation to the NRA Government Contract Division before that body makes recommendations to the Joint Committee.

[EDITORS NOTE.—In view of the decision of the Supreme Court on Monday in holding the National Industrial Recovery Act unconstitutional, it seems likely that new bids will be called for as authority to interfere with the bidding under the code has been made void by the action of the Court.]

TAPPI Group to Meet at Syracuse

Wide-spread interest on the part of TAPPI members and friends in Northern and Central New York to eventually form a local section has led to a number of "get togethers" that indicate that the organization will be successful.

The next meeting of this group will be held at the Syracuse Hotel, Syracuse, N. Y., at 7 P.M., Friday, June 7, 1935 at which time a dinner meeting will be held.

HIGH SPEED GRINDING

Dr. H. W. Johnston, of the Forest Products Laboratories of Canada, Montreal, will be the guest speaker and will discuss "High Speed Wood Grinding." A new pulp classifier will also be described and probably exhibited.

A large number have indicated their intention to be present at this meeting. Anyone interested will be welcome, but all are requested to notify John Schuber, St. Regis Paper Company, Deferiet, N. Y., if they will attend the dinner. This will be the last meeting until the fall.

Awards for Government Paper

WASHINGTON, D. C., May 29, 1935.—The Mathers-Lamm Paper Company will furnish the Government Printing Office with 6,525 pounds (725,000 sheets) of 10 x 7 mimeograph bond paper at 6.75 cents per pound, bids for which were received on May 13.

The R. P. Andrews Paper Company will furnish 5,258 pounds, 50 per cent rag blue laid paper at 13.09 cents per pound, bids for which were received on May 17 while the same firm will also furnish 500 sheets of 14 x 10 black photograph album paper at $6.35, bids for which were received on April 29.

S. W. Shannon Goes To Reading Paper Mills

READING, Pa., May 27, 1935—S. W. Shannon, the former superintendent of the Groveton Paper Company, Inc. at Groveton, N. H., has become superintendent of the Reading Paper Mills, Reading, Pa.

Indianapolis Demand Spotty

INDIANAPOLIS, Ind., May 27, 1935.—Paper demand in this territory is rather spotted, according to manufacturers and jobbers. Weather conditions continue to be adverse and it is certain a lot of business is being delayed solely on account of the slow opening of real spring. The fine paper demand particularly has been hit by the slowness of spring. According to jobbers, demand for fine papers last week was not so good. The prospects for book papers and covers are rather better than they were a year ago, however. Some of the larger publishing houses in this section, which do a good school book business, are said to be getting under way and some of them have some nice orders.

Kraft papers are moving in fair shape. This is true of other of the common grades. One of the largest jobbers of common papers in the middle west, located here, reports a good business, with volume ahead of last year. Bags and wrapping papers are moving nicely with prospects for increased business once there is some spring.

Naturally, due to cold, there has been little business in summer specialties. Some inquiries were received this week, but there was litle actual buying. Tissues, however, are active, a local manufacturer being in production virtually night and day.

The box business is fair. There continues to be a good demand from old customers. The local plants have not increased their lines and new customers are hard to find, but the old customer seems to be buying more heavily than he did earlier. Inquiries for future buying are heavier than they were a year ago. Much uneasiness is manifest among the manufacturers concerning national legislation particularly NRA and the Wagner bill.

Paper stock men say there is litle change. Mill demand is far from what it should be.

Bristol board and similar supplies are reported more in demand than a year ago with the volume this year considerably larger than last.

Long Drive Under Way on Lake Tupper

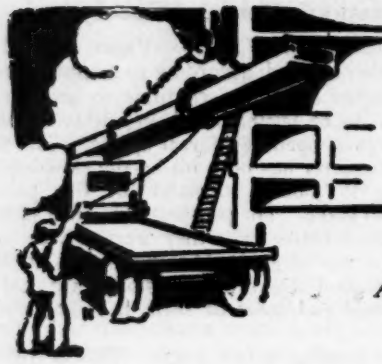
[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., May 27, 1935—A spring log drive is under way on Tupper Lake for the first time in many years and huge rafts are being floated for many miles to the unloading point where they will be packed in freight cars for the final trip to the mills of the St. Regis Paper Company at Oswego and Deferiet and the Potsdam mill of the Racquette River Paper Company. A contractor from Utica is supervising the job and employing a large crew of lumberjacks. The cut was completed last fall in the vicinity of Round Pond, being the first of a series of lumbering activities scheduled to extend over a period of years and is understood to comprise about 300,000,000 feet. It was said that about 8,000 cords of pulpwood would be sent to the mills in the drive under progress. A tug and several booms are being used and the drive is attracting many residents to the lake.

High Temperature Bonding Mortars

The Harbison-Walker Refractories Company has just issued three new folders describing three types of high temperature bonding mortars—Thermolith (with a chrome ore base), Firebond (with a silica base), and Harwaco Bond (with a diaspore base). In addition, each folder contains a list of applications for which the banding mortar described is suited and is being used with economy.

Copies of these folders may be obtained by applying to the Harbison-Walker Refractories Company, 1801 Farmers Bank Building, Pittsburgh, Pa.



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Shelton, Wash.—The Rainier Pulp & Paper Company, 343 Sansome street, San Francisco, Cal., plans early construction of new building at mill at Shelton, to be one-story, 46 x 180 feet, designed for storage and distributing service, particularly for roll stock. New unit will cost close to $25,000, with equipment. Bids have been asked on general contract. D. B. Davies is general manager and superintendent at plant.

Abilene, Tex.—The East Texas Chamber of Commerce, Abilene, Hubert Harrison, manager, is active in project to construct and operate a pulp and paper mill in vicinity of the city. Negotiations are under way with a company which proposes to carry out the enterprise, name temporarily withheld. Proposed mill will consist of several units and is reported to cost over $2,000,000, including machinery.

Nazareth, Pa.—The Nazareth Paper Box Company, 181 South Whitfield street, manufacturer of paper boxes and containers, plans rebuilding of portion of plant recently destroyed by fire, with loss estimated over $65,000, including equipment.

Detroit, Mich.—The Eagle Paper Box Company has been organized with capital of $25,000, to manufacture paper boxes and containers, and will take over and succeed to the company of same name, with local plant at 1826 Sixth street. Joseph A. Siegel is one of the incorporators of the new organization.

Brooklyn, N. Y.—Minkoff-Rosenfield Brothers, Inc., 288 Cooper street, manufacturer of paper boxes and containers, has concluded arrangements for lease of five-story building at 557 De Kalb avenue, and will remodel and improve for new plant. Company will take possession of structure in June and plans to have ready for operation closely following.

Monroe, La.—The Bancroft Bag Factory, West Monroe, manufacturer of paper bags and containers, has awarded contract to Humble & Humble, Monroe, for building foundations and other work in connection with new addition to plant, recently referred to in these columns. It will be one-story, 80 x 200 feet, reported to cost over $70,000, including equipment. Herbert Dickard, Monroe, is consulting engineer.

Newark, N. J.—Fire, May 17, destroyed the two-story storage and distributing building of Ringel Brothers, 154 Ogden street, paper products, with loss reported over $80,000, including equipment and stock. The structure covers an area 150 x 300 feet. It is proposed to rebuild in near future.

Portland, Ore.—The Adhesive Products Company, 3400 Thirteen avenue, S. W., manufacturer of adhesive paper specialties, etc., is considering early construction of new two-story plant, 46 x 88 feet, at location noted. It will replace a unit recently destroyed by fire, lately referred to in these columns. No estimate of cost has been announced.

Los Angeles, Cal.—The United States Paper Company, 1301 East Sixth street, has asked bids on general contract for new storage and distributing plant at Evergreen street and Pico boulevard, to be two-story, 118 x 151 feet, totaling about 25,000 square feet floor space. It is reported to cost over $60,000, with equipment. Harry T. Miller, 4814 Loma Vista street, Los Angeles, is architect in charge.

Grand Rapids, Mich.—The Carpenter Paper Company has concluded arrangements for the purchase of five-story and basement building at 5-7 Ionia avenue, S.W., formerly occupied by the Gunn Folding Bed Company and Gunn Wholesale Hardware Company. New owner will take over the structure at once and will remodel and equip for new storage and distributing plant. Large increased space will be arranged for this service as compared with present building. Company will remove to the new location as soon as structure is ready, maintaining headquarters there in the future. Lee V. Mulnix is president.

Franklin, Ohio—The Maxwell Paper Company is considering the construction of a new one-story building, to be used for storage and distributing service. No estimate of cost has been announced. Company is affiliated with the Aetna Paper Company, Dayton, Ohio.

Turners Falls, Mass.—The International Paper Company, New York, has discontinued operations at two local mills, affecting about 200 workers. The plants were started up last March, following a curtailment for close to a year, and have been in steady production since that time. The local pulp mill will be continued in service without change.

Philadelphia, Pa.—The American Fiber-Velope Manufacturing Company, 229 North Sixty-third street, manufacturer of fiber products, has acquired adjoining property 20 x 125 feet, at 233 North Sixty-third street, improved with a two-story store building. The property will be used for future expansion.

Ottumwa, Iowa—Fire recently damaged the storage and distributing building of Niemeyer Brothers, paper products. An official estimate of loss has not been announced. The loss will be replaced at early date.

Newark, N. J.—The Sterling Paper Converting Company, recently organized with capital of $90,000, represented by John R. Hardin, Jr., 744 Broad street, attorney, plans operation of local plant for the manufacture of a line of paper goods.

East Point, Ga.—The Paper Makers Chemical Company, Kalamazoo, Mich., manufacturer of chemical products for the paper industry, is considering new addition to plant at East Point, Atlanta, one-story, for general pro-

duction, storage and distribution. No estimate of cost has been announced.

New Companies, Etc.

Fort Wayne, Ind.—The Butler Paper Company, Inc., 110 West Columbia street, has been incorporated with capital of 1000 shares of stock, no par value, to manufacture paper specialties of various kinds, strawboard products, etc. The incorporators are Paul Butler, A. J. Gravelle and H. W. Reiher.

Ottawa, Ill.—The Illinois Fiber Corporation, 1220 West Madison street, has been chartered with capital of 15,000 shares stock, no par value, to manufacture and deal in fiber products. The incorporators are Frank C. and Edgar C. Bellrose.

Waco, Tex.—The Texas Tablet Company has been incorporated with capital of $100,000, to manufacture and deal in paper specialties. W. L. Morgan and Leslie B. Gardner, both of Waco, are principal incorporators.

Binghamton, N. Y.—The Economy Wall Paper Company, 46 Summer street, Boston, Mass., has recently filed notice of organization to operate in New York, with capital of $50,000. State offices will be maintained at Binghamton.

Lynn, Mass.—The Mutual Abrasive Sales Company, 130 Eastern avenue, has been organized to deal in sandpapers and kindred abrasive paper stocks. David Rabinovitz, 53 Arlington street, is one of the organizers of new company.

New York, N. Y.—The Masterpack Waste Paper Corporation has been incorporated with capital of 100 shares of stock, no par value, to deal in waste paper products. The incorporators are Charles A. Mastronardi, 17 New Bowery, New York, and S. Epstein, 97 Van Wagenen avenue, Jersey City, N. J. I. Edward Reiter, 11 West Forty-second street, New York, is company representative.

Wilmington, Del.—Nation Wide Papers, Inc., has been organized under direction of the Corporation Trust Company, Industrial Trust Building, Wilmington, with capital of 2000 shares of stock, no par value, to manufacture paper goods of various kinds. The incorporators include L. H. Herman and Walter Lenz.

New York, N. Y.—The Yankee Card and Paper Company, Inc., has been incorporated with capital of $20,000, to manufacture and deal in card and paper stocks of various kinds. Barnett Bord is one of the incorporators. New company is represented by Samuel Rosenblum, 521 Fifth avenue, New York.

Gardner-Richardson Salesmen Meet

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, May 20, 1935—The annual sales conference of salesmen of the Gardner-Richardson Paper Company, was conducted Thursday, Friday and Saturday at Middletown, with a large attendance. Salesmen were present from New York, Philadelphia, Chicago, St. Paul, St. Louis, Pittsburgh and other cities.

The initial meetings were held in the Civic Association building in the Paper City. A social session was conducted the previous evening, the visitors were entertained at the Wyoming Country club on Friday afternoon, the weather having been ideal after a period of rainy, disagreeable and unseasonably cold weather. The country club festivities followed a morning business session in Middletown.

E. T. Gardner welcomed the salesmen as president of the company, which owns mills in Middletown and Lockland. He expressed his confidence in the future and stated that the firm had expended $800,000 during the past year in plant and equipment improvements.

Others who addressed the convention were Colin Gardner, vice-president; W. H. Richardson, of Lockland, vice-president in charge of production; W. S. LaRue, of Lockland, vice-president in charge of purchases; R. E. Richardson, of Lockland; M. S. Johnston, of Middletown; C. H. Avery, of Lockland, Eastern sales manager; P. H. Van Horn, of Lockland; J. C. Herr and Robert Gardner of Middletown. It was generally reported that business seemed distinctively on the uptrend.

The Middletown mills and the Lockland plant are two of the largest of their kind in the country and have enjoyed a most substantial volume of trade during the past year. Prospects for the future were said to be good, with indications that they would still be better in the course of time.

Glatfelter Observes National Safety Week

The P. H. Glatfelter Company, Spring Grove, Pa., on Thursday, May 9 staged a demonstration in honor of National Safety Emphasis Week that surpassed anything this staid old town has witnessed since the memorable jubilee following the election of Grover Cleveland, in 1884.

The demonstration consisted of a group meeting of the Glatfelter employees addressed by Harry Immel, a former employee of the State Department of Safety, in the afternoon and a parade in the evening in which the whole community participated. Mr. Immel gave a very instructive talk on Safety in all of its phases—in the mill, in the home, and on the street.

The evening parade was very impressive. Practically every organization in the community was represented with marchers carrying banners with safety slogans and with floats on which were graphically and dramatically portrayed common unsafe practices, and how to overcome them.

The enthusiasm of the community and its recognition that it is the duty of every individual to help reduce the appalling national accident toll and have a care for his own safety and that of his neighbor greatly gratified the executives of the Glatfelter Company. In addition to a very low accident record enjoyed by the company, it was a splendid indication of the beneficial results occurring from their constant stressing of safety principles, and the constant development and maintenance in the mill of safe working conditions for their employees.

Iroquois Bankruptcy Petition Dismissed

[FROM OUR REGULAR CORRESPONDENT]

THOMSON, N. Y., May 20, 1935—A petition filed by Attorney M. D. Whedon seeking the discharge of the First Trust Company of Albany as trustee in the bankruptcy proceedings of the Iroquois Pulp and Paper Company was dismissed last week by Supreme Court Justice Borst. A bankruptcy petition was filed by the concern about two years ago after the H. B. Barden Estate of Vermont, a creditor, had secured a judgment of $8,000 at a court hearing. At the session last week it was brought out that the trustee is endeavoring to interest several paper concerns in either the purchase or sale of the property. The opinion was also given that a public sale of the property would prove disastrous to the interests of the creditors. Attorneys for the trustee said that an offer of $15,000 had been received from a textile manufacturer and that negotiations are being conducted with other parties. When the bankruptcy petition was filed the assets of the company were placed at $1,197,511.98 and the liabilities at $513,871.94. The assets consisted mostly of real estate and equipment besides stock on hand.

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FALLACY OF WAGE AND HOUR CONTROLS

That continuance of governmental control of wage rates and working hours can only result in diminishing the total volume of employment, reducing the annual incomes of wage earners and lowering the standard of living is graphically demonstrated in the current booklet editorial of the Farrel-Birmingham Company, Inc. This is the twelfth in a series of such editorial on vital economic problems which has aroused widespread interest throughout the country. The authors, Allen W. Rucker, and N. W. Pickering, president of the company, believe that sooner or later it must be recognized that economic law foredooms to failure every effort to benefit workers by artificial control of wage rates and working hours and express the hope that that recognition may come without much more delay so that the nation may the sooner get down to a true basis for recovery.

It is exceedingly unfortunate, it is stated, that insufficient consideration has been given to the true way to increase purchasing power and the annual income of wage-earners, namely, by encouraging an increase in the worker's productivity. Since June, 1933, the authors have repeatedly pointed out that the shorter hours would reduce productivity, and that higher wage rates would increase costs and prices, thus retarding demand and limiting the opportunity to produce. Had those fallacies been avoided, it is entirely probable that the rate of industrial operation and employment would now be closely approaching normal.

That probability is easily demonstrated by assuming for the moment that the productivity per worker had been the same in 1933 and 1934 as it was in 1931.

In 1931, the average factory worker's output value was $4100 measured in 1926 dollars; His annual wage was 36.3 per cent of the output value or $1488 in 1926 dollars; In 1933, productivity fell to $3200 and the annual wage at 36.3 per cent dropped to $1162, the reduction of 21.9 per cent in the annual wage matching the like reduction in productivity.

In 1934, the reduction was 14.6 per cent in productivity and 15.3 per cent in the annual wage, despite the increase in hourly wage rates.

That, it is to be noted, is what actually did happen.

It is doubtless permissible to suppose for the moment what would have happened had the productivity per worker in 1933 and 1934 been the same as in 1931.

With a productivity equal to 1931, the worker's ability to buy would have been just 21.9 per cent greater than it actually was in 1933, simply because annual wages increase with the increase in productivity. Thus, the factory worker could have bought 21.9 per cent more goods than he did buy.

Inasmuch as total employment varies with the physical quantities of goods bought, it is probable that 21.9 per cent more working hours would have been needed to produce those goods.

In that case it is easy to calculate the probable number of workers who would have been employed and compare that number with the number actually employed. Thus, had there been no shortening of work hours and had workers had the same productivity in 1933 as in 1931, the total physical quantities of manufactured goods produced in 1933 could have been turned out with approximately 5.7 million factory wage-earners. The added productivity and, hence, added annual wage per worker, would have been 21.9 per cent greater, calling for a like increase in physical quantities of goods and, consequently, an equal, or 21.9 per cent, increase in employment to make those goods. That increase (21.9 per cent of 5.7 millions) would have amounted to 1.25 million workers, or a total of 6.95 millions employed in factories—a rather sharp contrast with the 6.05 millions actually employed under the wage and hour control provisions.

Put another way, it is probable that with no change in hours and productivity, and with the correspondingly greater purchasing power, we would have employed in 1933 some 1.25 million more workers, whereas the shorter hour and spread-the-work theory only raised the average annual employment about 350,000.

And there is every reason to believe that if, in 1934, the nation had not curtailed working hours and, hence, productivity and annual wages, the workers' purchasing power would have been sufficiently great to have created a demand, requiring 7.5 million factory workers to produce it, instead of the 6.4 millions actually employed in that year.

Needless to say, the saddest of all sad stories is "it might have been," and the only justification for the telling of what might have been is to reveal what the nation has lost by pursuing the will o' the wisp of wage and hour "controls."

Sooner or later, the nation must return to fundamentals and recognize the inescapable truths that:

1. Employment and man-hours per annum are determined by the physical quantities of goods produced and distributed, and cannot be increased by shortening the work week;

2. Physical quantities of production depend upon balancing prices with incomes and correcting the existing distortion between the current price level and the true price level;

3. Distorted prices restrict the physical quantities produced and sold, and therefore limit the man-hours of labor available—in fact, unemployment varies directly with the degree of distortion between prices and true incomes;

4. Price distortion and unbalance is directly caused by artificial increases in wage rates and restriction of working hours, which increase manufacturing costs; and results directly in diminishing employment and reducing the annual income of workers.

In plain terms, economic law foredooms to failure every effort made to benefit workers by wage and hour controls.

However soon or late we, as a nation, may be in arriving at the true basis for recovery and a rising standard of living, there is no difficulty in listing the moves required:

1. Provide workers with an opportunity to achieve maximum productivity per annum and, hence, higher annual incomes;

2. Relieve manufacturers of the burden of artificial wage *rates,* which do not benefit the worker, in order that industry and labor may jointly balance production costs and selling prices with the true level of incomes, thereby stimulating a maximum demand for goods;

3. Restore flexible working hours in order that each industry and the workers therein may develop maximum efficiency in low-cost production per unit; make it possible for each industry to give more employment to labor by developing maximum efficiency and thereby increasing its possible sales through low costs *per unit.*

4. Encourage wage-earners to seek higher annual incomes through greater productivity, rather than through a mere increase in hourly rates at the expense of reduced hours and higher living costs;

5. Stimulate confidence of investors by removing artificially created hazards to profits and by inspiring hope in the possibility of reasonable return upon investments.

Whenever such conditions have prevailed, the country has been prosperous; any legislative edict which prevents their restoration must indefinitely postpone recovery. And of all edicts much act to that end, the artificial wage and hour control provisions must be put at or near the top of the list.

The great uncertainty of the future is the question of how long it will require the nation to grasp and understand the staggering price it has paid in permitting this fallacy to underminue the national welfare.

R. J. Cullen To Head Manufacturing Dept.

International Paper Company announces that R. J. Cullen has been appointed Manager of Manufacturing and has taken over the duties of E. A. Charlton who has resigned.

Mr. Cullen will continue as President of Southern Kraft Corporation, a division of International Paper Company.

Weekly Production Ratio Report

Reports to the Paper Industry Authority show the following Over-All Production Ratios for the designated periods.

	Reporting Mills		Total Production
	Number	Capacity	Ratio
September, 1934	292–299	.....	59.4%
October, 1934	297–394	.....	64.7%
November, 1934	385–399	.....	61.7%
December, 1934 (a)	396–404	.....	62.1%
January, 1935	397–411	.....	65.8%
February, 1935	407–409	.....	70.0%
March, 1935	406–408	.....	70.5%
April, 1935	403–407	.....	70.0%
*Week ending May 4, 1935	398	166,443	70.0%
*Week ending May 11, 1935	397	165,612	69.2%
*Week ending May 18, 1935	318	125,251	68.8%

Statistics showing the number of mills reporting by ratio groups are given below:

	Number of Mills Reporting		
	Week Ending		
Ratio Limits	May 4, 1935	May 11, 1935	May 18, 1935
0% to 50%	129	142	108
51% to 100%	269	255	210

* Subject to revision.

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours" were as follows:

September, 1934	62 per cent
October, 1934	63 per cent
November, 1934	56 per cent
(a) December, 1934	53 per cent
January, 1935	61 per cent
February, 1935	67 per cent
March, 1935	67 per cent
April, 1935	61 per cent
May 4, 1935	61 per cent
May 11, 1935	61 per cent
May 18, 1935	59 per cent

(a) Capacity and percentage data exclude December 25, 1934.

Revised statistics covering delinquent mill returns will be shown in later reports.

Bill To Tax Pulp and Pulpwood

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 29, 1935.—Representative Smith, of Virginia, has introduced a bill (H.R. 8181) in the House, which has been referred to the Committee on Ways and Means "to raise revenue by taxing certain wood pulp and pulpwood." The bill is as follows:

That section 601 (c). (4) of the Revenue Act of 1932 is amended by inserting before the period at the end of the first sentence thereof the following: "pulpwood, $2 per cord of one hundred and twenty-eight cubic feet; chemical wood pulp, $7.50 per short ton; mechanically ground wood pulp, $4.50 per short ton."

Schroon River Increases Production

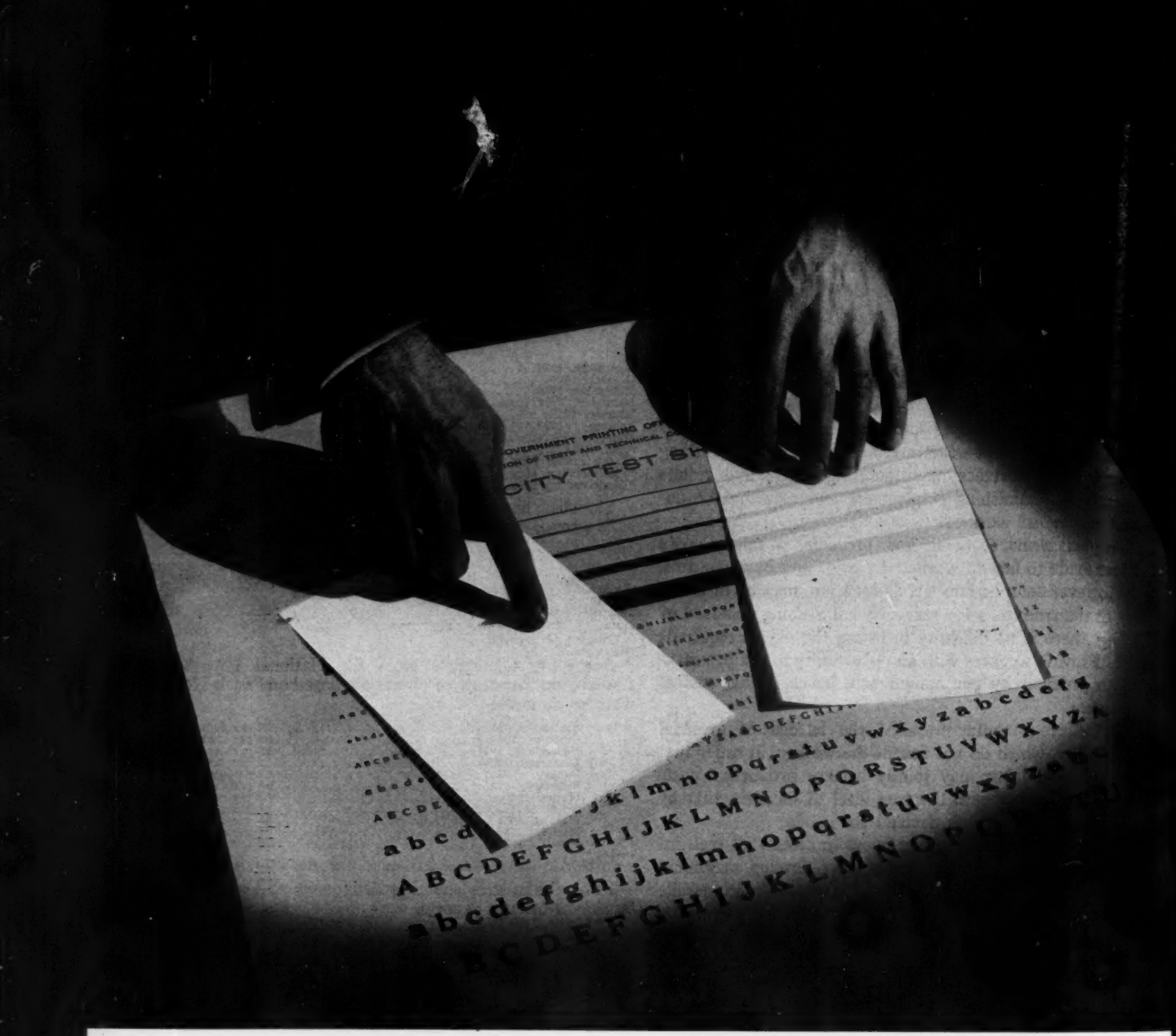
[FROM OUR REGULAR CORRESPONDENT]

WARRENSBURG, N. Y., May 27, 1935—Production was increased this week at the Schroon River Paper Company and orders being received insure steady operations for some time. Many local residents are being given day and night employment by the newly reorganized concern which resumed recently after an idleness of several years. The waters of the Schroon River have also risen sufficiently to permit the operation of all grinders in the pulp mill.

Unity Paper Corp. Loaned $45,000

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 29, 1935—During April the Reconstruction Finance Corporation made a loan of $45,000 at six per cent interest to the Unity Paper Corporation of Potsdam, N. Y.



"Now there's an OPAQUE sheet"

Salesmen are encountering many comments such as this when offering the new improved lines—more opaque, whiter and brighter papers that arouse enthusiasm among paper dealers, printers and consumers.

Because the desired degree of these qualities can be obtained by CRYPTONE and ALBALITH Zinc Sulphide Pigments, which are available in a range of strengths to meet a variety of requirements, the use of these pigments is increasing.

The trade is looking for these qualities. . . . Our Technical Service Department is ready to cooperate with you on any phase of this development.

New Jersey Zinc

THE NEW JERSEY ZINC COMPANY 160 FRONT STREET, NEW YORK

ZINC SULPHIDE PIGMENTS IN PAPER

Section of the

Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

Big Meeting Planned at Winchendon

A record attendance is expected at the joint meeting of the New England Section of the Technical Association of the Pulp and Paper Industry and the Connecticut Valley Division of the American Pulp and Paper Mill Superintendents Association to be held on June 14th and 15th at the Toy Town Tavern, Winchendon, Mass.

FRIDAY PROGRAM

1. "Paper Machine Press Rolls," by R. W. Pattison, American Writing Paper Company, Holyoke, Mass.
2. "Invert Sugar in Paper Making," by J. F. Leete, National Sugar Refining Company, New York.
3. "A New Slant on Cylinder Seams," by P. S. Sinclair, The Sinclair Company, Holyoke.

A Joint Luncheon will be followed by baseball, croquet, swimming, bridge, ping-pong, hiking, hot dog roast and the superintendents' golf tournament.

In the evening there will be a dinner followed by a barn dance.

SATURDAY PROGRAM

1. "Soap, Felts and Slime," by R. W. Mitchell, Magnus Chemical Company, Garwood, N. J.
2. "Application of Chlorine in the Pulp and Paper Industry," by W. L. Savell, Mathieson Alkali Works (Inc.), New York.

In the afternoon there will be the TAPPI golf tournament and in the evening, a dinner-dance.

A special program has been prepared for the ladies, to include golf, bridge and croquet tournaments.

Many beautiful prizes have been contributed and plans have been made to permit everyone to stand a fair chance of winning one in some form of competition.

Reservations should be made with the Toy Town Tavern, Winchendon, Massachusetts. The rate is $5 per day including room, meals and entertainment. Golf fees will be $1 per day. For additional information write to Stephen S. Stapley, Chemical Paper Company, Holyoke, Massachusetts, or to Helen U. Kiely, American Writing Paper Company, Holyoke.

TAPPI Notes

George Sivola formerly chief chemist of the Dexter Pulp and Paper Company, Dexter, N. Y., is now with Enso Gutzeit, Enso, Finland.

Bjorn Sucksdorf who has been visiting in the United States has returned to Kymene, Finland.

Olof Bildt, of Munkedals A/B, Sweden, is now visiting in the United States.

John B. Calkin who has been Senior Fellow of the Textile Foundation at Cornell University from 1932 to 1935 is now with the Dennison Manufacturing Company, Framingham, Mass.

H. F. Bamford, formerly with Johns-Manville, Manville, N. J., and C. A. Minor formerly of the Collins Manufacturing Company, N. Wilbraham, Mass., are now with Fraser Paper Ltd., Madawaska, Maine.

The Technical Section of the Canadian Pulp and Paper Association will hold its summer meeeing at the Chateau Laurier, Ottawa, Ontario, July 8 to 10, 1935. All members of TAPPI and the Superintendents Association will be welcome.

The Graphic Arts Research Bureau will meet at the Gibson Hotel, Cincinnati, Ohio, June 20 and 21, 1935. There will be a discussion of printing problems. Members of TAPPI are invited.

A joint meeting of the New England TAPPI and the Connecticut Valley Superintendents will be held at the Toy Town Tavern, Winchendon, Mass., June 14 and 15, 1935.

The Delaware Valley Section of TAPPI meets at Philadelphia, Pa., (Engineers Club), Friday, May 24th at 6:30 p.m. C. B. Hollabaugh will talk on "Application of Nitrocellulose Lacquer Emulsions in Paper."

Lake States TAPPI Elects

The final meeting of the season of the Lake States Section of the Technical Association of the Pulp and Paper Industry took the form of a stag dinner on May 14th at the Terrace Gardens, Appleton, Wis. About 200 members and guests were present.

Otto Kress reported the following recommendations of the nominating committee: Chairman—S. D. Wells, Combined Locks Paper Company, Combined Locks, Wis.; Vice Chairman—J. R. Fanselow, Kimberly-Clark Corporation, Neenah, Wis.; Secretary-Treasurer—H. W. Morgan, Institute of Paper Chemistry, Appleton, Wis. All were elected. The nominating committee was composed of Otto Kress, Institute of Paper Chemistry, Appleton, Wisconsin; J. A. Staidl of Thilmany Pulp and Paper Company, Kaukauna, Wis.; and C. R. Seaborne, also of Thilmany Pulp and Paper Company.

Official Rules for Wood Pulp

The revised issue of Official Rules for Weighing, Sampling and Testing Wood Pulp for Moisture and Trade Practices for Approved Pulp Testing Chemists issued by the Joint Committee on Approved Pulp Testing Chemists is now ready for distribution. This pamphlet is available at the offices of the American Paper and Pulp Association, 122 East 42nd street, New York, N. Y., at fifty cents per copy.

The Cooking of Kraft Pulp With Improperly Settled White Liquor*[1]

By Otto Kress[2] and Ward D. Harrison[3]

Abstract

Kraft cooks have been made with liquors to which calcium carbonate sludges and clay have been added respectively, in order to simulate cooks made in the mill with improperly settled white liquor. The pulps from such cooks show a loss in strength and have an undesirable gray color, and resemble commercial pulps made with the above improperly settled liquor. It has been found that the undesirable characteristics of such pulps are due to the presence of mechanically entrained calcium carbonate which may be removed from the pulp by improved washing conditions.

It has long been known that kraft pulp cooked with liquor containing calcium carbonate sludge is weak and possesses an undesirable color. Such liquor generally results from the use of improperly burned lime for causticizing or lime of the wrong composition. As a result, the settling of the sludge is unduly prolonged, the clarifying system is overworked, and where the capacity of the settling tanks is inadequate, unsettled liquor must be pumped to the digester. The resulting pulp generally runs about 10 per cent below average in strength, and in addition has a gray cast which gives the paper an unpleasing appearance.

Because of the above, it seemed desirable to carry out a systematic study of such cooks, with the idea of determining whether the calcium carbonate produces these undesirable results by chemical degradation of the fiber or whether the effects are purely mechanical, and to develop, if possible, a process for producing pulp of good strength and color when the wood is cooked with unsettled cooking liquor.

The work, as carried out, falls under three main headings:

I. Cooking on an experimental scale with kraft cooking liquor adulterated with calcium carbonate sludge and with clay for purposes of comparison. The pulps produced were examined for their strength characteristics and filler retention, and were compared with a control made under the same conditions, except that the filler was left out.

II. Beating commercial kraft pulps which had been adulterated with percentages of calcium carbonate sludge and filler comparable with the amounts retained in the above cooks. These pulps were then investigated before and after a washing treatment, as in I.

III. Investigating the possibility of reconditioning off-color, weak pulps which had been produced with adulterated cooking liquor. Two different methods were employed, the first involving a water washing study, the second, removal of adulterants with acid.

Experimental Work

I. Cooking on an experimental scale with kraft cooking liquor adulterated with calcium carbonate sludge and with clay for purposes of comparison.

Rotary digesters were used to make three cooks. Each required 14 pounds of air-dry (13 pounds oven-dry) wood and 3.9 gallons of chemical which contained 0.866 pounds of sodium sulphide and 1.732 pounds of sodium hydroxide. The digesters were heated to 175.0 deg. C. in 45 minutes at which temperature they were held for a total cooking time of 3 hours. The cooks were relieved twice, once at 65 deg. C. and again at 110 deg. C. The chips used were ½ inch commercial spruce which contained no bark or knots.

The first cook, No. 1, was a regular cook approximating commercial practice as closely as possible. The other cooks were similar, except that to No. 2 was added 3 per cent clay based on the dry weight of the wood and clay, and to No. 3 was added 3 per cent calcium carbonate sludge in the form of a slurry. The clay used was commercial papermakers' clay, 99.01 per cent dry, and having an ash content of 85.50 per cent. The calcium carbonate sludge was made by causticizing commercial green liquor with lime. The sludge had an ash content of 56.0 per cent. The white liquor obtained from the above causticization was used in these cooks after the proper dilution. The pulps obtained were assumed to be cooked to the same degree because the conditions, already specified, were rigorously maintained.

A strength test was made on each pulp, using a 1½ pound Valley beater, and the curves obtained are shown in Fig. 1. Ash determinations were also made on each pulp, and the results are shown in Table I.

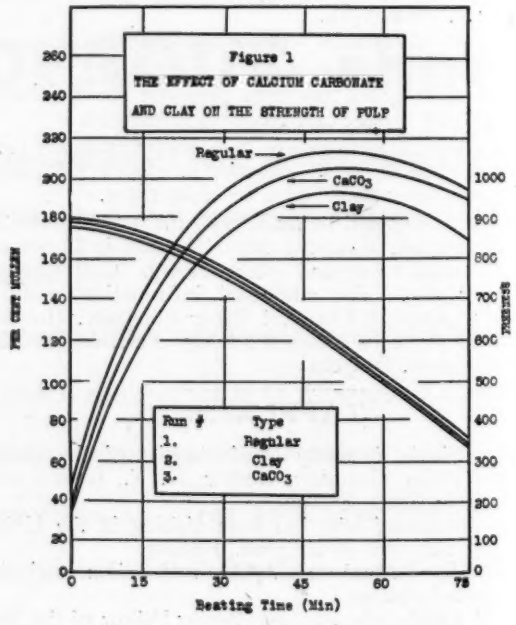


FIG. 1

* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 18 to 21, 1935.

[1] Submitted by the junior author as a thesis in partial fulfillment of the requirements of The Institute of Paper Chemistry for the degree of Master of Science.

[2] Member TAPPI, Technical Director, Institute of Paper Chemistry, Appleton, Wis.

[3] Graduate Student, Institute of Paper Chemistry, Appleton, Wis.

FIG. 2
Cook No. 1 Regular. ×150 (Reduced one-third).

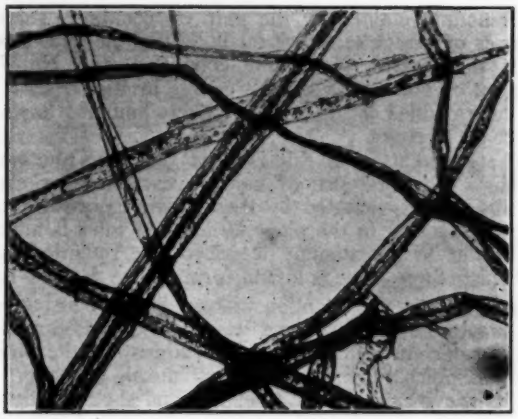


FIG. 3
Cook No. 2, 3 per cent Clay. ×150 (Reduced one-third).

TABLE I
ASH DETERMINATIONS AND FILLER RETENTIONS OF ROTARY DIGESTER COOKS

	Cook No. 1	Cook No. 2	Cook No. 3
Yield %	43.1	45.5	42.5
Ash %	0.9	4.2	1.3
Total grams pulp	2548.0	2689.0	2512.0
Total grams ash	22.93	112.94	32.15
Grams ash due to filler	....	90.0	9.22
Grams filler equivalent to ash	....	105.0	16.4
Grams filler added	....	176.0	176.0
% filler retained	....	59.5	9.3
% filler in pulp	....	3.9	0.65

The curves in Fig. 1 indicate that the presence of calcium carbonate does reduce the strength of the pulp considerably. The cook with clay was included to show that the action is characteristic of fillers.

The per cent filler retained was determined from the per cent ash (see Table I), the regular cook, No. 1, being used as a blank. When the per cent ash of the blank is subtracted from the per cent ash of the filled pulp, the per cent ash due to the filler is obtained. The per cent ash of the pure filler was also determined, and so by dividing the per cent ash due to the filler by the per cent ash of the filler and multiplying by 100, it is possible to calculate the per cent filler retained. Taking into account the fact that these pulps contained different amounts of ash and therefore retained different amounts of fillers, it is obvious from the data obtained that the greater the amount of filler retained, the less the strength. A blank strength test run on the regular pulp gave the highest strength. The calcium carbonate pulp which retained 9.3 per cent of its filler was next, while the clay filled sheet had the lowest strength and the highest retention, 59.5 per cent.

In order to get an idea of the way in which the fillers lie on the pulp, photomicrographs at 150 diameters were taken. The fibers shown in Fig. 2 were obtained when the wood was cooked in the regular way. No filler or sludge was added, and it will be seen that the fibers are clean. The fibers shown in Figs. 3 and 4, on the other hand, were obtained when the wood was cooked with 3 per cent clay added to the cooking liquor. It will be noticed that the pits in the horizontal fiber in the upper right hand corner of Fig. 3 are surrounded or covered with clay. Fig. 4 is interesting in that the bundle of fibers shown must have been on the outside of the chip when cooked. It seems to be completely imbedded with clay. The fibers shown in Fig. 5 were obtained when the wood was cooked with 3 per cent calcium carbonate. It will be noticed that the calcium carbonate lies on the fiber in small particles and is not spread evenly over the fiber.

The foregoing work shows that it is possible to reproduce in the laboratory the same results through cooking with unsettled liquor as are found in commercial practice.

II. BEATING COMMERCIAL KRAFT PULPS ADULTERATED WITH CALCIUM CARBONATE SLUDGE AND CLAY.

In order to determine the loss of strength of a sheet made by adding lime sludge and clay to the beater in

FIG. 4
Cook No. 2, 3 per cent clay. ×150 (Reduced one-third).

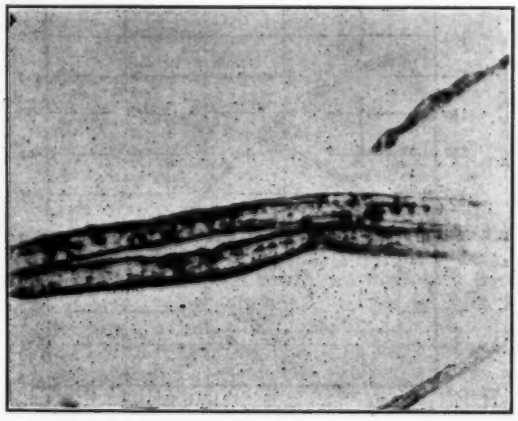


FIG. 5
Cook No. 3 $CaCO_3$. ×150 (Reduced one-third).

the amount retained by the pulp on cooking (Table I), a series of beater runs was made. Of these, No. 5 represents the control, No. 6 the clay-filled, and No. 7 the calcium carbonate-filled. The curves in Fig. 6 show that the fillers added to the beater in these amounts have little effect on strength.

The explanation of this is clear from the photomicrographs. The presence of calcium carbonate or clay in the digester is reflected by these fillers imbedded in the fibers, especially in the pits. Where the filler is added to the beater in the amount described, the retention is low and the greater share is lost in forming the sheet.

Inasmuch as the retention was too low to be of value in the previous series, a second beater series was carried out using sufficient filler to have retained in the finished sheet as much filler as is retained during cooking. The results show, as expected, that the hand sheets made from the pulp beaten with the larger amount of filler have poorer strength characteristics than the blank made without filler. Naturally it took a considerable number of runs to arrive at the desired retentions, but runs Nos. 16 and 17 represent satisfactory retentions. These various data are pictured graphically in Fig. 7.

Because small amounts of filler are easily removed by the white water in forming a sheet, it would appear as though a certain amount of the undesirable filler might be removed from the pulp by washing. As a preliminary experiment, stock was saved from runs 16 and 17 and thoroughly washed in about the same manner as results during sheet formation. This consists in suspending the stock in water in the sheet mould, then allowing it to drain and repeating the operation six times. The last washing was carried out with distilled water. Two sheets were made for the calcium carbonate-filled and clay-filled study. One was reserved for strength tests and the other for ash determination in each case. The results indicate that the strength of the sheet made by washing out the filler in each case is practically the same as that of the blank sheets made without adding any filler at all to the beater. These strength values are shown on the control curves of run 18, in Fig. 7.

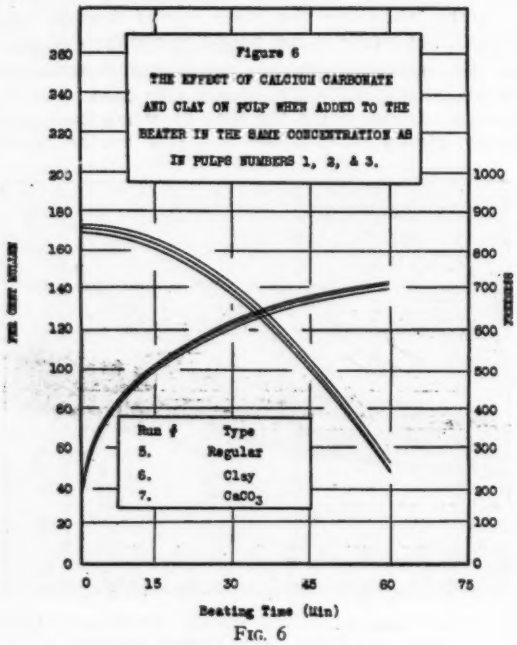


Figure 6
THE EFFECT OF CALCIUM CARBONATE AND CLAY ON PULP WHEN ADDED TO THE BEATER IN THE SAME CONCENTRATION AS IN PULPS NUMBERS 1, 2, & 3.
Run # Type
5. Regular
6. Clay
7. CaCO3
Beating Time (Min)
0 15 30 45 60 75
0 20 40 60 80 100 120 140 160 180 200 220 240 260
0 100 200 300 400 500 600 700 800 900 1000

FIG. 6

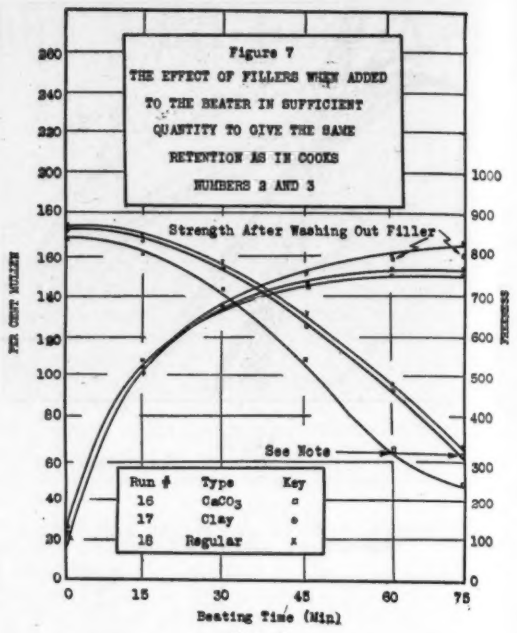


Figure 7
THE EFFECT OF FILLERS WHEN ADDED TO THE BEATER IN SUFFICIENT QUANTITY TO GIVE THE SAME RETENTION AS IN COOKS NUMBERS 2 AND 3
Strength After Washing Out Filler
See Note
Run # Type Key
16 CaCO3 a
17 Clay o
18 Regular x
Beating Time (Min)
0 15 30 45 60 75
0 20 40 60 80 100 120 140 160 180 200 220 240 260
0 100 200 300 400 500 600 700 800 900 1000

FIG. 7

Note: Sheets made at this freeness had the same per cent filler as those pulps which were made with 3 per cent filler added to the cooking liquor.

The ash determination showing the relation between the time of beating and the retention of filler are listed in Table II. This same relation is shown graphically in Fig. 8 for runs Nos. 16 and 17.

The results show that the amount of filler retained increases with the beating time and the strength falls off considerably as compared with an unfilled pulp. The strength curves are of the same order and compare with the strength curves made on the pulp which had the filler added during the cooking operation. Of special interest is the fact that original strength may be restored to a stock containing filler by washing out the filler with water.

TABLE II
THE RELATION BETWEEN THE TIME OF BEATING AND THE RETENTION OF FILLER

Beater Run	Grams Filler Added	Hand Sheets Beating Time (Minutes) 0	15	30	45	60	75	Well Washed
No. 9 Regular	...	...	.71[a]	...	0.69	0.73	...	.
No. 10 Clay	42.3	...	1.45	...	2.25	3.35	...	.
		...	0.88	...	1.82	3.08	...	.
No. 11 $CaCO_3$	7.05	...	0.96	0.99	1.22	1.28	...	..
		...	0.46	0.52	0.94	1.03	...	..
No. 12 Clay	49.4	...	1.25	...	...	3.06	...	...
		...	0.65	...	...	2.76	...	...
No. 13 $CaCO_3$	4.7	...	0.45	...	...	0.59	...	...
		...	...	...	...	...	...	...
No. 14 $CaCO_3$	5.9	...	...	...	...	1.44	1.54	...
		...	...	...	...	1.30	1.50	...
No. 15 Clay	49.4	...	1.34	...	2.95	5.6	...	...
		...	0.75	...	2.63	5.7	...	...
No. 16 $CaCO_3$	4.7	0.86	0.92	0.94	0.97	1.01	1.88	0.89
		0.28	0.41	0.43	0.48	0.55	1.05	0.34
No. 17 Clay	45.8	1.24	1.50	1.69	1.93	2.50	3.92	1.07
		0.63	0.93	1.07	1.44	2.10	3.80	0.43
No. 18 Regular	...	...	0.71	...	0.70	0.73	...	...

[Note: [a] Upper figures are per cent ash. Lower figures are per cent filler in pulp.]

III. Reconditioning of Off-Color, Weak Pulps by Washing.

Continuing with the investigation of the above series of experiments on washing, it was found possible to lower the ash content of a clay-filled stock from 3.83 per cent to 0.43 per cent by washing. (See Fig. 8) Using the same procedure with cook No. 2, which was the cook

made with 3 per cent clay based on the dry weight of the wood added to the cooking liquor, it was found possible to reduce the ash content from 3.9 per cent to 2.07 per cent.

This indicates that drastic washing may be used as a means of removing undesirable sludge from stock made with unsettled cooking liquors. Accordingly, two more cooks were made: Cook No. 4, which approximated good mill conditions, and No. 5, which had 3 per cent wet calcium carbonate sludge added, based on the dry weights of the wood and filler. Both pulps were washed as usual through a perforated plate. These pulps are indicated in Table III as "A washed." The five gram samples were washed again with 12 gallons of water, and the resulting pulp is called "B wash." Additional five gram samples were washed over in an 8 minute period to give so-called "C washed" pulps. The values indicate that the washed pulps have essentially the same ash content as the control cook.

TABLE III
EFFECT OF WASHING PULP ON THE RESIDUAL ASH

Cook Number	Per Cent Ash		
	A Washed	B Washed	C Washed
8 Regular	0.74	0.74	0.62
9 Wet $CaCO_3$ Filled	0.725	0.72	0.60

Strength tests were then run on the so-called "B washed" pulp of these cooks, with the results that are shown in Fig. 9. It will be seen that as a result of washing, the washed calcium carbonate-filled pulp has essentially the same strength as the control.

Since these experiments were carried out with relatively low concentrations of filler, four additional cooks were made using a greater quantity of filler. No. 6 was a regular cook approximating commercial practice as closely as possible. The other cooks were made in the same way except that to No. 7 was added 10 per cent clay based on the dry weights of the wood and clay, and to No. 8 was added 10 per cent calcium carbonate sludge, while 50 per cent calcium carbonate sludge was added to the last one, No. 9.

Each of these pulps was examined for per cent ash after being washed as outlined above. In addition to the "A," "B," and "C" washed pulps, 5 grams of the

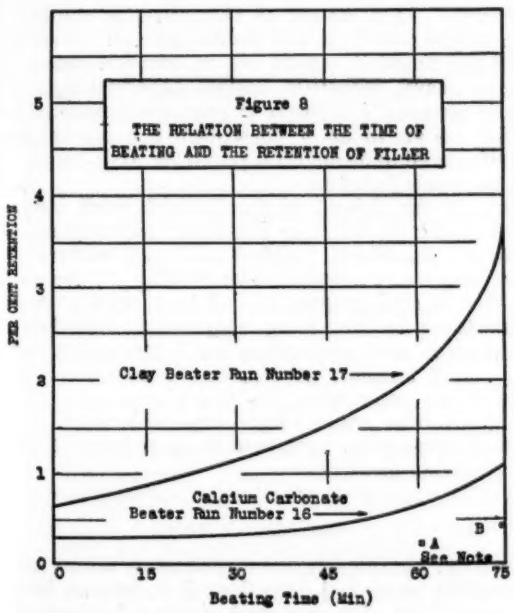


FIG. 8

Note: Left in pulp after washing. Calcium Carbonate, A; Clay, B.

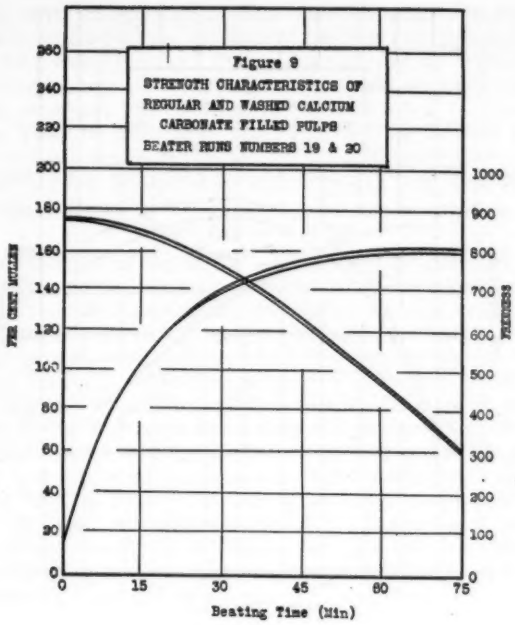


FIG. 9

"A washed" pulp in one case were washed with 144 gallons of water for 24 minutes on a 70 mesh wire to give the so-called "D washed" pulp. Great difficulty was experienced in washing the cooks made of 10 per cent clay because of caking of the clay. Hence it became necessary to resort to other means for carrying out the washing. These various means are shown in Table IV along with other data on the effect of washing. It will be seen that even the 50 per cent lime sludge can be washed down to a condition approximating the regular cook containing no filler.

The strength of the washed pulps is likewise about as high as the strength of unfilled pulps, and at the same time the undesirable gray cast of the filled pulps disappears, the resulting pulp having the same appearance as the control pulp made without filler. This holds both for the cook made with 3 per cent calcium carbonate as well as the 50 per cent calcium carbonate.

TABLE IV
THE EFFECT OF WASHING ON THE ASH CONTENT OF PULPS

Cook Number	Remarks	Washing			
		A	B	C	D
8	Regular	0.74	0.74	0.62	...
9	3% Calcium Carbonate	0.72	0.72	0.60	...
11	10% Clay	4.06	3.26	2.60	2.20
11	10% Clay Ground in Mortar	...	1.08	...	...
11	10% Clay Mixed 30 min. in High Speed Mixer	...	1.73	...	...
11	10% Clay Actual Mechanical Separation	...	1.73	...	...
11	10% Clay Actual Mechanical Separation plus Grinding	...	0.81	...	...
12	10% Calcium Carbonate	1.14	0.67	0.65	...
13	50% Calcium Carbonate	0.80	0.63	0.64	...

Although water alone can be used for washing out calcium carbonate sludge without damaging stock, it seemed worth while to determine what the effect would be of reducing the ash content by washing with dilute hydrochloric acid. Consequently, pulp from cook No. 8, which contained a fairly high calcium carbonate content, was treated with hydrochloric acid in slight excess of the theoretical amount based on ash content. These experiments were carried out in the following manner:

A regular beater run in a 1½ pound Valley beater was started. At intervals of 30 minutes sufficient pulp was

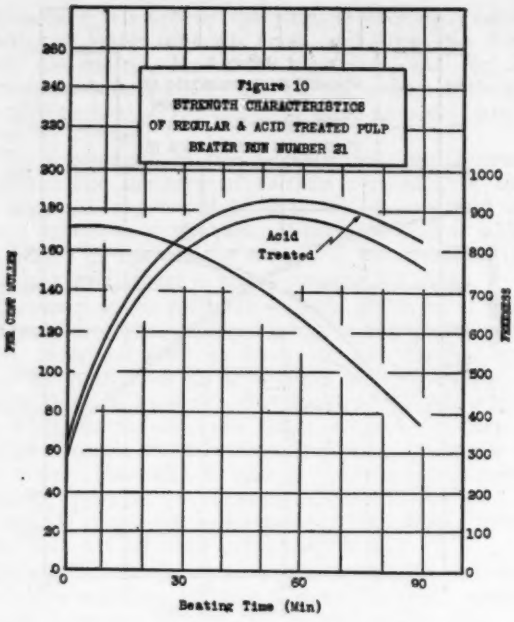


FIG. 10

withdrawn to make four sheets. This was divided in half, and from half of this two sheets were made directly. The other half of the pulp was put into a high speed mixer, water was added, and then $\frac{10}{N}$ hydrochloric acid was added in a calculated amount. The mix was carried out for about a minute after which any excess free acid was neutralized with a trace of ammonia. Sheets were then made in the usual way, one sheet being reserved for ash content and the other for strength tests. These strength tests are shown in Fig. 10, and the ash results are shown in Table V.

TABLE V
ASH DETERMINATION OF REGULAR AND ACID-TREATED PULP

	Beating Time (Minutes)			
	0	30	60	90
Untreated (Control)	0.99	0.91	0.98	0.93
Acid Treated	0.99	0.80	0.76	0.77

The result of the acid treatment is to reduce the ash content of the acid-treated pulp to a point practically the same as the ash content of the regular cook, which is cook No. 8 in Table IV. With this treatment, it is possible to remove at the end of the beating period approximately 2 per cent ash. In other words, about 17 per cent of the ash can be taken out of the beaten pulp by this mild acid treatment.

Summary

The data set forth in this paper indicate that the gray color and lowering in strength of the pulp cooked with imperfectly settled white liquor are due, for the most part, to calcium carbonate sludge held mechanically by the fibers, and not to actual chemical degradation. Such sludge may be removed in part by washing with water or by treating with dilute hydrochloric acid, although this treatment with hydrochloric acid is not to be recommended. Any operation capable of improving pulp washing will be of help in bringing such pulp up to standard.

The Effects of Refining Action*

By D. Manson Sutherland[1]

Abstract

Attention is called to the need for simplification of terms used in stuff preparation and suggestions are made for the same.

Refining action on pulps changes the fiber size, shape and flexibility.

Changes in fiber size, shape and flexibility can be determined by classification or screening tests.

Fiber size, shape and flexibility obtained by refining action is affected by the chemical and physical properties of the basic raw material or pulp.

Scientists and practical papermakers have for a long time and are now seeking conclusive explanations of the phenomena occuring in cellulose fibers in the course of treatment for papermaking. Experienced papermakers determined the qualities of fibers required for a given paper by rule of thumb methods and were able to produce good quality papers from various raw materials long before the scientist had made much progress in his investigations of cellulose. In fact, it would appear from the literature and discussions that a great deal of investigation is still necessary to explain in a scientific manner the practical papermaker's procedure in manufacturing a sheet of paper.

Scientific investigation, however, is proceeding more rapidly owing to the increased number of scientists and technical men now engaged in the paper industry and in laboratories of universities and colleges in all papermaking countries. As a matter of fact scientific understanding of practical procedure and results generally develops long after the practical results are in common use. This is true in many industries besides papermaking. Fundamental research in industry is generally financed from the profits of an industry consequently products must be manufactured and sold on a profitable basis before fundamental research begins.

One of the objects of the TAPPI Stuff Preparation Committee is to facilitate and foster cooperation between scientists, machinery builders and papermakers so that there may be a clearer understanding of the problems involved in stuff preparation. It may seem to some that scientists are far from being in agreement as to the reaction occurring in stuff preparation but it seems that confusion also occurs amongst papermakers themselves The objects of this paper are:

(1) To offer some simple explanations of the effect of stuff preparation equipment in an endeavor to simplify the problems involved.

(2) To suggest simplified terms and definitions.

Definition of Terms

In order to simplify our problems it seems necessary to consider terms and definitions first, because herein lies the possibilities of a great deal of misunderstanding. For instance, we speak of beating and refining as though these are two totally distinct operations in stuff preparation.

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It is true, of course, that in some mills beaters and refiners are separate and distinct machines but the refining action of both are somewhat similar under proper operating conditions. We speak of brushing, rubbing, drawing out, cutting, hydrating, etc. and much effort is expended in claiming that one machine is better than another to obtain any or all of these actions on fibers.

As a suggestion for simplification the following definitions and terms are used:

Pulp: A pulp in the papermaking sense is the basic raw material. (*1*)

Pulp suspension (Slush, stock, etc.): A pulp suspension is the combination of basic raw material in sufficient water to permit circulation by pumps, agitators and the like.

Stuff: A stuff is the basic raw material processed and ready to pass to the papermaking machine or equivalent operation. (*1*)

Defibering (shredding, slushing, breaking down.): This operation covers the step of loosening and separating fibers and fiber bundles from sheets of pulp, old papers and broke or other basic raw materials such as chips. It is usually carried out by means of breaker beaters and shredders of various types. The effect obtained by defibering wet or dry sheets and other basic raw materials is to break the bond between the fibers and separate them so they may be suitably processed and made ready to form a sheet.

Defibering comprises the separation of fibers and fiber bundles in basic raw materials without material change in freeness.

Refining (beating, jordaning or refining.): This term is used to describe the action on a pulp suspension of suitable consistency when subjected to a mechanical treatment in a beater, Jordan or the like to prepare the stuff for formation into a sheet.

Refining comprises the mechanical actions necessary to develop the desired stuff and sheet properties from pulp suspension.

Refining action (beating, brushing, drawing, cutting, rubbing, fibrillation, Hydration.): This term is used to describe the effect of refining. Hitherto, it has been customary to use the terms of beating and refining.

Refining action comprises all mechanical methods used to produce the desired stuff properties from a pulp suspension.

Stuff Properties: Stuff properties are determined by physical tests and give indications of the quality of sheets that can be produced from any given stuff under ordinary sheet making processes.

Stuff properties comprises physical properties of stuff as determined by laboratory tests for : freeness, flowrate, classification of particle size, shrinkage, bursting strength, folding strength, and opacity.

Fibers and Water

The practical papermaker well knows that water plays an important part in papermaking and that it has a definite effect on cellulose fibers. He has always recognized the practical difference between "free" and "slow" stuffs since simple observations and feel showed there was a marked difference. He also knew, by experience how free or slow he should refine his stuff to get the proper stuff properties for his particular sheet. The term "hydration" had not entered his vocabulary and did not do so until chemists began to work with him. The papermakers accepted the fact that water was necessary for stuff preparation and used as much or as little as he thought would give best results.

In the early days he used a beater to produce the desired stuff properties such as free or wet stock and in more recent years jordans and the like were introduced mainly, however, to save time. Obviously the effect of this refining action would produce the stuff properties he required providing he handled his equipment properly and although he did recognize the chemical or physical effect of water on the fibers he must have depended upon mechanical refining action to get the desired results. In some cases he depended upon defibering as a preliminary step and then refining.

Particle Size and Shape

Simplification of the terms used in stuff preparation as used above points to the possibility of a simple explanation of the effects produced by defibering and refining. Perhaps the most simple case to consider is the production of groundwood pulp in which logs are ground to the desired stuff properties for newsprint and other groundwood papers. The refining action is obtained by grinding and the log is rapidly reduced to a pulp suspension. The time element is short and the high temperature is quickly reduced in commercial operations so that the effect of water on the fiber is negligible from papermaker's standpoint. Since the basic raw material is a log say four feet long by a mean diameter of six inches and the stuff produced is a mixture of fibers of varying length and thickness it is apparent that the following changes have occurred.

(1) Particle size.
(2) Particle shape.

The experienced papermakers know that groundwood pulp must be free from shives and have a curly fibrillated appearance on the blue glass in order to make a good sheet of paper. He speaks of slow or free stuff but the difference between slow and free stuff is again particle size and shape. Free stuffs have a longer average particle length and a different particle shape than slow stuffs. It is unnecessary to point out the difference in particle size and shape between the basic raw material i.e. log and the refined stuff but the difference in particle size and shape between slow and free ground wood pulps illustrates the result of the refining action i.e. grinding as shown in Table I.

TABLE I
CLASSIFICATION OR SCREENING TEST ON GROUNDWOOD

	Slow stuff	Free stuff
Freeness (Canadian Standard)	90 cc.	194 cc.
On 14 mesh.....	0.35	11.8
28 mesh.....	12.70	41.2
48 mesh.....	14.20	6.7
100 mesh.....	22.02	15.0
200 mesh.....	16.77	8.8
Through 200 mesh.....	33.96	16.5

Chemical pulps such as sulphite, sulphate and soda can be considered as a class in relation to particle size and shape. Again we use as our basic raw materials logs, slabs and edgings which are mechanically reduced in particle size and shape by chippers. The cooking process reduces the particle size and shape once more by chemical means. Refining again changes the particle size and shape thus making a total of three stages of reduction in particle size and shape as compared with one for typical groundwood.

For the purpose of this paper we are only concerned with the effects of refining stuffs and sulphite can be taken as typical of chemical pulps. Dried sulphite laps are first defiberized into a pulp suspension which involves reduction in particle size and shape. The pulp suspension is then passed through a refining system to obtain the desired stuff properties.

For comparison we will assume that the stuff properties are suitable for glassine since this grade requires more drastic reduction in particle size and shape than any other grade of sulphite papers. A typical classification of unrefined sulphite and stuff for glassine is shown in Table II

TABLE II

	Unrefined sulphite	Refined sulphite
Freeness (Green)	650-700 cc.	78 cc.
On 20 mesh	58.0	26.3
40 mesh	8.4	26.2
100 mesh	10.9	21.7
200 mesh	11.1	11.4
Through 200 mesh	11.6	14.5

Fiber Flexibility

Attention must now be called to another change occurring in refining in addition to particle size and shape and that is flexibility. The reaction which cause flexbility in fibers is not well understood but many investigators have called attention to the rapid increase in strength developed by slight refining action such as obtained by agitation of a sulphite pulp suspension with a high speed agitator commonly used in laboratories. Scientific investigations have not yet offered a complete solution of this phenomenom but the papermaker knows that slight refining action tends to make fibers softer or more flexible and the same reaction cannot be obtained by mere soaking in water without some refining action.

It has been shown that chemical fibers become flexible by slight refining action and more drastic refining action is required to change particle size and shape. It may be possible that scientists will be able to elucidate the reactions which occur when agitating fiber in water but in the meantime the practical papermakers will not be disturbed as the slight freeness drop obtained by agitation is a small matter compared with changes in particle size and shape which is required for most commercial papers.

In addition to the effect of refining action the flexibility of fibers is dependent upon the properties of the basic raw material. Fibers encrusted with lignins and other non-fibrous materials are less flexible in comparison with purified fibers. As an example groundwood is less flexible than unbleached sulphite and no refining action is known which will make groundwood equal to unbleached sulphite in particle size, shape and flexibility.

The use of the term particle size in connection with fibers is not new as several research workers have used this term. P. K. Baird, C. E. Hrubesky, P. S. Billington and L. A. Carpenter in their paper "The Use of the Rod Mill for Fibre Processing", published by Forest Products Laboratory, Madison, Wis., Sept. 1931 state on page 50 "Since the 'slowness' of a pulp as measured by the usual type of freeness tester is affected by both hydration and particle size."

Fibrillation and Particle Shape

No references have been found which use the term particle shape consequently it is necessary to develop reasons for suggesting its use. Perhaps the most used and the least understood term used by technical men and practical papermakers is "hydration". Scientific workers generally seem to agree that there is a chemical combination between water and cellulose which may take the form of a true hydrate but the action of beating and refining i.e. refining action does not increase the amount of water chemically combined with the cellulose.

Assuming this hypothesis to be correct then the term "hydration" as applied to the effects of refining action is misleading. Some investigators have suggested the term "fibrillation" as a substitute for "hydration". Fibrillation is a better term since it is more accurately descriptive of changes due to refining action but after all it is simply a change in the particle or fiber shape. Again it is well known that fibers comprising a free stuff have changed but very little in size and shape as compared with fibers in the basic pulp while fibers in slow stuff have changed to a marked degree which can be readily observed under a microscope or on a blue glass.

It is possible therefore to describe a free stuff as having a minimum change in particle size and shape and slow stuffs as having a maximum change in this respect. The papermaker will undoubtedly prefer to use the terms free or slow stuffs since they are simple and easily understood. Technical men, however, will find it is advantageous to think in terms of particle size and shape particularly if they are interested in developing stuff preparation equipment.

The operation of screening illustrates that particle size and shape has been considered for a long time although these terms have not been used. The width of slots and perforations of screen plates have always varied according to the class of stuff to be screened. Free stuffs require larger slots or perforations than slow stocks because free stuffs have a larger average particle size.

Fiber Size and Shape

The use of the word particle may not be desirable in general use and the terms fiber size and shape might be more appropriate since the papermaking industry deals with fibers. The writer has purposely used the word particle because it arrests attention and is commonly used in other industries. Fibrous materials are ground for purposes other than paper making, perhaps the one most nearly comparable is wood flour as used in linoleum, dynamite and moulding compounds.

A paper on wood flour by F. W. Kressman and published in 1916 by the Forest Products Laboratory, Madison, Wis. gives a description of the process of manufacture and desired qualities. Hogged wood or chips are fed between stones and a sufficient stream of water is added to prevent firing and also to keep down dust. After grinding the wood flour is screened and sold in grades according to screen size such as 40, 60, or 80 mesh. The power consumption ranges from 1200 to 1500 h.p. hours per ton of flour produced which is about the same as used in the production of mechanical groundwood pulp.

Although the power consumption is practically equal and water is used in the grinding of both wood flour and groundwood nevertheless wood flour is unsuitable for papermaking because its particle shape is incorrect for proper felting necessary to get formation and strength, in the case of wood flour it is better to use the term particle as we are dealing with fiber bundles almost entirely whereas in groundwood we are dealing with a major proportion of individual fibers if properly ground and screened. In pulp and papermaking it is better to think and speak of fiber size and shape and immediately the question arises as to how the fiber size and shape is to be determined.

Microscopic methods of measuring fibers require expert technicians and too much time for each determination consequently it is not practical to use this method in general mill practice. The classification or screening test can be carried out by control testers in regular routine tests and since its results are determined by screening under controlled conditions of consistency, temperature and screen perforation it is the best means available at this time for determination of fiber size and shape. As far as is known classification tests are not used for mill control of stuff properties but are confined to laboratory investigations The sheet properties are, however, affected by fiber size and shape in an important degree consequently it would seem advisable to perfect and simplify methods of classification in order to apply this valuable test to general mill practice.

Literature Cited

(1) Baird, P. K., and Doughty, R. H.: Tech. Assn. Papers, XVI: 511 (1933).

Construction Problems Associated with High Pressure Boilers for the Pulp and Paper Industry*

By F. H. Rosencrants[1]

Abstract

It may be stated that there is no technical reason why boilers from the smallest to the largest size required in the pulp and paper industry cannot be built for high pressure and high temperature operation. Economically it is believed there are ample reasons why they should be.

The maximum steam pressure in the pulp mill for process work is that required for the digesters and seldom exceeds 150 pounds gage. The objective of higher steam pressure is power production through the medium of a high pressure turbine exhausting at pressure requirements for process. The ideal pressure in any given instance is that pressure in combination with the steam required for process which will, when expanded through a high pressure turbine down to process pressure, produce the amount of power required to operate the plant. The ideal steam temperature is that which will result in the steam at the exhaustion from the high pressure unit being near saturation.

Figs. 1 and 2 are idealistic but show clearly the manner of superimposing a high pressure power production unit upon a plant requiring steam for process. As will be noted in Fig. 1, all steam is generated without superheat and at the maximum pressure required for process work. Such steam as is required at pressure lower than the generated pressure is passed through turbine equipment as indicated in the diagram. It is recognized that steam requirements will vary through rather wide limits as between various plants. The quantities of steam indicated in the diagram, however, are taken from a specific case and are the quantities per ton of pulp at the three different pressures indicated.

Fig. 2 is identical in the steam requirements for process but all steam is generated at a pressure higher than the maximum process requirement. A superheater, a high pressure turbine, and a high pressure feed water heater is added.

The variation in power production with increasing pressure is noted in Fig. 3. In this same figure a curve showing the total steam temperature required in order that the exhaust from the high pressure unit at 145 pounds pressure will be just saturated, and a curve showing saturation temperatures are plotted. Fig. 3 is predicated on a turbine blading efficiency of 76 per cent and on an electric generating efficiency of 96 per cent. The power production corresponding to Fig. 1 is 381 kw.-hr. per ton of pulp. Therefore, the excess kw.-hr. above 381 shown in Fig. 3 may be credited to the high pressure unit.

In other than very exceptional circumstances, the pressure required for generating all the by-product power necessary for operating the plant will not exceed 700 pounds gage, which it will be noted upon reference to Fig. 3, requires a corresponding temperature of 630 deg. F.

Only a few years ago, a pressure of this magnitude was considered extreme. The past ten to twelve year period, however, has witnessed a very rapid development until today such steam conditions are considered commonplace, and the frontier has moved up to a pressure of approximately 1400 pounds and a temperature of 900 deg. F. In this development, construction methods have played a more important part in boiler construction than have materials. Ordinary carbon steel is still the accepted material for the boilers for the highest pressure. As a matter of interest, the tensile strength of steel is a maximum at a temperature considerably above the temperature of saturated steam at 1400 pounds pressure. Carbon steel is also the accepted material for superheater construction up to near 800 degree mark. Above this point special alloys are required for the high temperature end.

* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 18 to 21, 1935.
[1] Member TAPPI, Combustion Engineering Company, New York, N. Y.

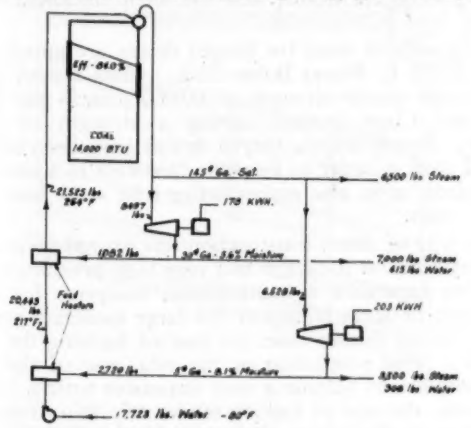

FIG. 1

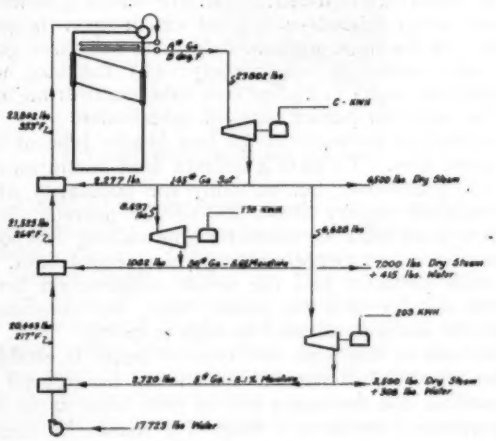

FIG. 2

Drum Construction for High Pressure Boilers

In the development of high pressure boilers, the drum construction has been the only item of the boiler itself which has presented any serious problem. So long as steam drums were constructed with riveted joints, a plate thickness of approximately 2½ inches was about the limit. With a double butt strap, this made a rivet length of over 7 inches and a rivet diameter of 2 inches. To secure a satisfactory joint required extreme accuracy in the fit of butt straps, perfectly reamed holes, rivets machined to a micrometer fit, and a careful and thorough calking of plates and rivet heads.

The conservative pressure limit for which a boiler may be constructed depends to a great extent upon its general design. In the high pressure field there are three general types in commercial use, namely: (1) the box header straight tube boiler; (2) the bent tube multi-drum boiler; (3) the sectional header straight tube boiler.

The limit of pressure of the box header type of boiler is reached first. To state a definite limit would no doubt lead to controversy, but certainly the popularity of this type falls off rapidly above 250 to 300 pounds. It has, however, been built for pressures approaching 500 pounds. The writer is not aware of the precise record limit. The flat, staid surfaces, and the throat construction between the box header and the steam drum, are constructions which are not well adapted to high pressure.

The limit of the bent tube type of boiler is established by the strength of material which can be secured on a longitudinal line through a row of tube holes in the drum. As normally constructed, tubes 3¼ inches in diameter, spaced on an average of 6-inch centers, are used, giving a solid metal distance between holes as drilled of slightly less than 2¾ inches. The corresponding strength along a longitudinal line, therefore, becomes 2¾ divided by 6, or about 45 per cent of the solid plate. This has been increased in certain instances by spacing the tubes further apart, by using smaller tubes, and by swaging the tube ends where they enter the drums. By the adoption of one or more of these means, boilers constructed for a pressure of 1400 pounds have been built in a number of instances and are operating in an entirely satisfactory manner.

The pressure limit for sectional header cross drum boilers is least restricted. They have been successfully made for 1800 pounds operation. There are so few tubes entering the drum in this design that they may be made to enter either through the double butt strap or the tubes in a given

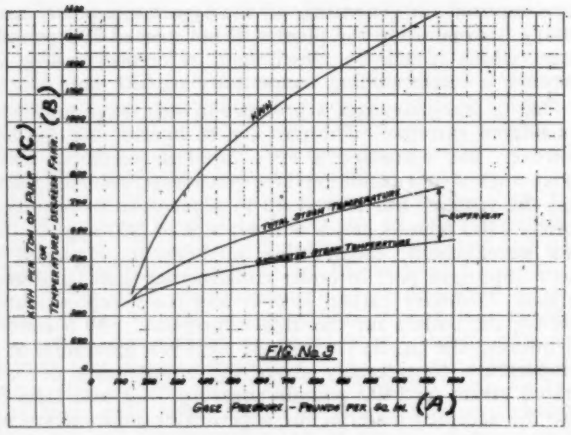

FIG. 3

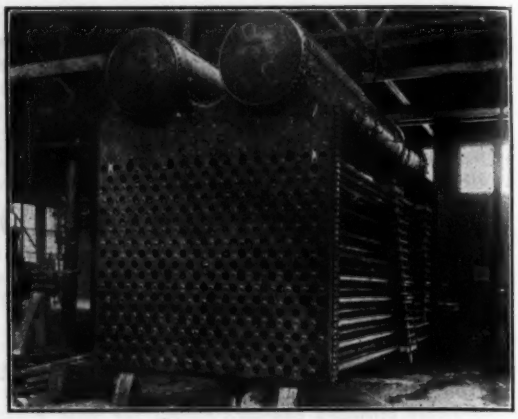

FIG. 4
Typical box header boiler.

longitudinal row may be staggered so that the distance between holes is twice or even three times what it would be without staggering. The drum thickness for a given pressure and drum diameter is therefore less in this design than for the bent tube type. Assuming 2½ inch plate thickness, the limit in pressure for bent tube boilers with riveted drums is approximately 450 pounds and for the sectional header cross drum type, approximately 750 pounds. By making the drums below normal in diameter these pressures may be somewhat increased. This construction has, however, rapidly become obsolete.

In 1924 the Boston Edison Company bought and installed the first super-pressure boiler. It was of the cross drum sectional header type, built for a pressure of 1200 pounds gage per square inch. To overcome the limitation imposed by riveted construction, the drum was made from a single ingot of steel forged into a drum complete with heads. It was not made in a boiler factory, but in a gun making shop. The drum diameter was 48 inches inside and shell thickness 4¼ inches. The overall length was 34 feet. The ingot from which this drum was made weighed 262,000 pounds. The finished drum weighed 88,475 pounds.

The above drum was the forerunner of a great many similar drums. Perhaps the most outstanding production to date is the drums in a boiler for the Port Washington Station of the Milwaukee Railway Light and Power Company. These drums are 40 inches inside diameter by 62 ft. long over the heads, and the shell thickness is 5¼ inches.

Two grades of steel for forged drums are approved by the A. S. M. E. Power Boiler Code. Class 1 steel, having an ultimate tensile strength of 60,000 pounds per square inch, and Class 2 steel, having a strength of 75,000 pounds. Nearly all the forged drums have been made of Class 2 steel in order to keep the thickness to a minimum. This harder steel also makes better tube seats into which to roll tubes.

This type of drum construction has proved quite a satisfactory solution for large and very high pressure boilers It is too expensive a construction, however, for either small high pressure boilers or for large moderate pressure units. In the former case, the cost of forming the heads is such a large proportion of the total cost of the drum that short drums become a very expensive article. In the latter case, the cost of making moderately thin drums was so high as to discourage their adoption.

Riveted vs. Welded Drums

With riveted drums at one end of the scale and forged drums at the other, a wide gap remained in the pressure range for which there was no suitable economic drum construction available. The obvious need stimulated the boiler companies in an effort to fill this gap, with the result that following a long program of research the A. S. M. E. Power Boiler Code formulated and adopted rules and regulations for the construction of electric fusion welded drums. These rules and regulations became effective July 7, 1931. The steel specified in these rules had an ultimate tensile strength of 55,000 to 65,000 pounds per square inch, design calculations being based on the lower figure. With further experiment and research, the technic of welding was developed for high carbon steel, and early in 1933 the A. S. M. E. Power Boiler Code approved the use of steel having a tensile strength of 70,000 pounds per square inch for welded construction.

Tests of the welds as made show consistently a strength equal to or better than the base metal, but as a precaution the rules specify that in design calculations the welds shall be assumed to be only 90 per cent. In addition to other requirements, the regulations require that all welded joints shall be X-rayed and that all completed drums shall be heat treated in an annealing furnace for the removal of all temperature strains produced in the process of welding. These two requirements, while recognized as being highly essential, add materially to the cost. The superiority of the construction, however, as compared with riveted joints, is so well recognized that the latter has become almost obsolete in the space of only two or three years.

There is no minimum limit in plate thickness as required for boilers for which welded construction is applicable. Commercially, owing to the cost of X-raying and heat treating, riveted construction continues to be popular for plate thicknesses of approximately ¾ inch and less. The upper limit in thickness is influenced largely by the cost and practical difficulties encountered in forming the plates for welding. The drums for the most recent installation at the Connors Creek Station of the Detroit Edison Company are 4 inches thick. The design in this case was based on steel having an ultimate strength of 55,000 pounds per square inch. The steam drum for a boiler just recently placed in operation at Akron, Ohio, for the Firestone Rubber Company, is also 4 inches thick. This latter drum, designed for 1400 pounds pressure, is based on steel with an ultimate strength of 70,000 pounds per square inch.

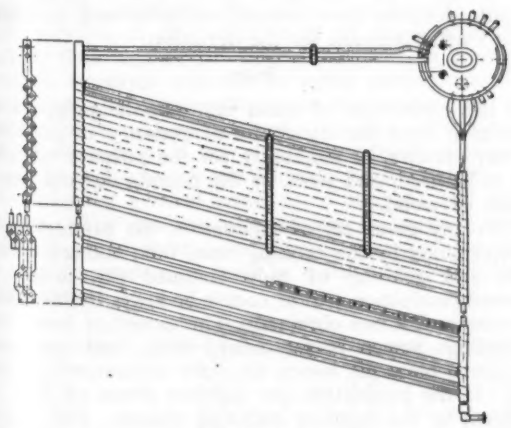

FIG. 6
Cross drum sectional header boiler showing manner of entering tubes into drum.

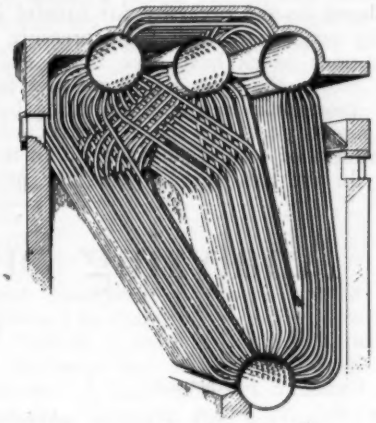

FIG. 5
Typical construction of bent tube boiler.

The A.S.M.E. Power Boiler Code just recently passed a ruling permitting the construction of boiler drums by the forging process, previously referred to, with separately formed heads welded on. This substantially reduces the cost of construction compared with forged drums with integral heads and brings such drums into competition with drums formed of plates with welded joints for plate thicknesses of around 4 inches and over.

With the above constructions approved, the increase in the cost of boilers with increase in pressure follows a reasonably smooth curve throughout the entire range. Small steps in the curve are due to successive increases in tube thickness from one gage to the next, but these are not important.

The superheat required in the paper industry is in no case high enough to require special alloy steels. Higher pressure requires thicker tubes and headers. Higher pressure also requires high superheat, (See Fig. 3) and a corresponding greater amount of surface. These two factors result in an appreciable increase in cost of superheaters with the increase in pressure, but no important construction or operating problems are encountered. Superheaters are in operation in this country for a temperature of 860 deg. F. with no operating trouble whatever. Units are now being built for 1400 lbs. pressure and 900 deg. F. In both cases, alloy steel is required for the high temperature end. In addition, there is an experimental unit with separately fired superheater which is operating at 1000 deg. F. From experience already gained, no difficulties of any character are anticipated with 900 deg. F.

Boiler Accessories

Boiler accessories, including blow-off valves, feed water regulating valves, safety valves, water columns, and gage glasses, have been developed in step with the increased pressure requirements. Of these only the gage glasses proved a knotty problem. It was found that the customary round gage glass was not suitable above a pressure of around 400 pounds. At above this point it is advisable to substitute a flat gage glass mounted in a suitable steel frame such as has long been the practice in locomotive work. For the very high pressures it was found that the water attacked the glass so that it rapidly became opaque. To overcome this difficulty and also to prolong the life of the glass, a strip of mica is placed between the glass and the water, thereby excluding entirely any contact between glass and water.

In a related paper being presented at this meeting, em-

phasis is placed on the necessity for careful feed water treatment in connection with high pressure operation. Water conditions which have been found entirely satisfactory for 150 to 300 pounds pressure may be found to be very troublesome indeed with operating pressures of 600 to 800 pounds gage. No specific instructions concerning the treatment of feed water falls within the scope of this paper. In the past several years the proper treatment of feed water has become a highly specialized field and in no case should high pressure operation be undertaken without consulting a specialist concerning the character of water available and the possibility of its being successfully treated for high pressure operation. It should be added, however, that there are few situations which by suitable treatment cannot be handled in an entirely satisfactory manner.

Analyzing Sulphite Mill Problems*

By Oscar E. Anderson[1]

Abstract

This mill is equipped with a system whereby an accurate record is obtained both of the weight of chips entering the sulphite mill and the weight of pulp produced. This paper deals with the evaluation of many commercial variables in sulphite pulping, and offers methods and suggestions for analyzing sulphite mill problems.

In order to perform an accurate analysis, the chemist must have the necessary equipment, knowledge of the method of procedure, and ability to interpret the results. This is no less important in analyzing sulphite mill variables and operating problems.

The equipment for obtaining the weight of the wood entering and the pulp leaving the sulphite mill has been described in greater detail by Lear *(1)*. Briefly, however, the equipment for obtaining the weight of wood consists of a Merrick chip weightometer for continuously weighing the chips going to the chip loft. An automatic sampler is provided to obtain a sample for moisture determination daily, and this sample is also used for other tests.

The equipment for obtaining screened pulp production consists of Sparling meters for obtaining volume of screened stock, as well as white water entering the system, and suitable automatic sampling equipment for obtaining consistency samples. This furnishes the basis for determining the yield. In addition to this much other equipment is required which will be mentioned later in the paper.

Wood

It is a significant fact that wood is by far the most expensive raw material in the process and yet we know very little about it, and seldom give it sufficient consideration. This applies even to the purchased wood. Where it is possible to have a choice as to species or quality of wood, it is of immense value to be able to make accurate comparisons as to cost, quality and quantity of finished pulp.

Each day in the chipper room, tests are made on a composite chip sample, for chip uniformity, moisture content, per cent slivers, per cent knots, per cent rot, specific gravity, and per cent chipper waste. On a composite sample for the week the 1 per cent caustic solubility is determined and occasionally the per cent lignin. These tests furnish a very valuable record.

With these tests, we have been able to determine the effect of many of the changes that occur in the chipper room. In one case we were about to install a new chipper spout since the old one was badly worn. In a comparison between the old and new spouts, it was found that the per cent slivers and large knots with the new spout dropped to less than 60 per cent of what it was with the old spout. A correlation with the amount of rejections in the pulp and the slivers among the chips indicated a saving of over $1800 per year through lower rejections. It would have been economical to change this spout sooner.

By reducing the speed of the chipper from 300 to 200 r. p. m., it was possible to reduce the amount of chipper waste by 1½ per cent of the wood consumed. This amounts to an annual saving of $4950.

Changing knives in the middle of the forenoon rather than making two filings reduced chipper waste by 0.55 per cent of the wood consumed, amounting to an annual saving of $1800. The annual savings are mentioned merely to show how a comparatively small change in the chipper room can amount to a large saving in money.

A sawdust measuring device is invaluable for showing when chipper waste or sawdust becomes too high. This has been described by Garrigan *(2)*. Operation of chip screens, crusher, etc., can likewise be checked.

The solubility in 1 per cent caustic furnishes a very good indication of the amount of decay in wood.

Table I gives a typical relationship between sound spruce, sound balsam fir, and average "good" and "fair" mill run wood consisting of a mixture of about 50 per cent spruce and 50 per cent balsam fir.

TABLE I

	Sound Spruce	Sound Balsam Fir	Mill Run Wood	
			Good	Fair
Per cent caustic solubility...	12.26	12.76	16.02	19.29
Per cent lignin	26.56	28.36	28.84	30.90

When the yield of pulp, or consumption of sulphur per ton pulp deviates from normal, statistics such as those in Table I often account for the deviation.

Pulp

In the conversion of wood into sulphite pulp, we may consider it from the standpoint of *quantity*, or production per day, *quality*, or suitability for the purpose for which it is to be used, and *yield*, or the pounds of pulp per 100 pounds of wood.

With any given set of equipment, the production will be determined by the cooking time, time allowed between cooks and quantity of pulp obtained per cook. The screened production will of course be lower by the amount of waste and losses obtained. The extent of losses from the tailings screen is determined daily, and the knotter rejections, blow pit losses, etc., are determined on occasion. If the production per digester drops off, this fact is shown by the Sparling metering system. For practical purposes, a report of this is made weekly, although daily figures are available. If the production per digester de-

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creases because less wood is charged per digester, this fact is shown by the Merrick weightometer.

The amount of wood per digester is usually dependent on the following factors:

1. Whether digesters are completely empty of pulp before filling, and completely full of chips after filling.
2. Natural packing due to moisture content and specific gravity of chips.
3. Forced packing of chips.
4. Length of chips or amount of large chips and slivers present.

Obviously, this system affords a good check on these conditions. Posting in the digester room the tons dry wood charged per digester tends to eliminate carelessness on the part of the cook in charging digesters. There are many definite advantages to be obtained by chip packing where it can be done and with this system, the extent of these advantages or disadvantages can be measured. The extent of packing due to increasing moisture content of the chips is shown in Table II.

TABLE II

Month—1934	Per Cent Moisture in Chips	Tons Dry Wood per Cook
January	30.0	19.1
February	29.1	18.1
March	31.1	19.8
April	32.6	19.7
May	31.4	20.6
June	32.8	21.2
July	36.0	21.6
August	38.0	21.2
September	39.8	22.0
October	40.1	21.8
November	36.1	21.2
December	35.8	21.0

You will note a remarkably uniform increase in tons wood per cook with increase in moisture content. These are actual figures for the year 1934. With the lowest moisture content of 29.1, the tons per cook was 18.1 or 12 per cent below the average for the year. With the highest moisture content of 40.1, the tons per cook was 21.8 or about 6 per cent over the average for the year. With only the data on production at hand, one might easily assume the higher moisture to favor a higher yield by as great a difference as is shown in the table.

Pulp Quality

When we consider pulp quality, we usually think of strength, color, and cleanliness. When the pulp is to meet certain specialized uses many other qualities may be considered and may even be more important than those listed. In general, the initial Mullen strength increases with chlorine number, or so-called "hardness" of pulp. In many mills, permanganate number or other tests are used in place of chlorine number. After pulp becomes so "hard" as to be brittle, this strength tends to decrease, which is at a chlorine number higher than is generally sought. The strength also varies greatly with the kind and condition of the wood, type of temperature curve, cooking time, method of cooking, etc., but, in general, the strength increases with better wood quality, more complete penetration, lower maximum temperature and longer cooking time. These factors are often interdependent, but the main point is that a record of these values is necessary if we are to account for changes in strength. Table III shows the general trend as to strength and chlorine number. The Mullen is expressed as bursting strength for a 32 pound sheet. The figures represent the average of a large number of tests in which other variables are also present.

TABLE III

Mullen Strength	Chlorine Number	Mullen Strength	Chlorine Number
11.5	1.81	16.3	5.78
14.7	2.49	18.6	6.26
14.0	2.60	18.3	6.58
14.3	3.31	18.3	7.28
15.0	3.73	21.8	7.76
16.1	4.24	20.2	9.07
15.5	4.77	19.8	9.92
15.6	5.23		

Table IV shows a typical relationship between cooking time and maximum temperature as compared to strength. Other figures in this table will be referred to later. The penetration period and initial steaming was similar on these cooks, and advantage was taken of longer cooking time to obtain lower maximum temperature.

TABLE IV

Duration of cook (hours)	7.0	8.0	10.5	12.0
Initial acid temperature, °C.	82—	72	73	74
Maximum cooking temperature, °C.	153	142	139	133
Chlorine number	3.44	3.90	2.45	3.08
Strength	9.4	15.2	16.3	18.9
Per cent tailings	5.10	2.17	1.89	.32
Pounds steam per ton (as metered)	4786	4432	3750	3304

Color and cleanliness of pulp as washed in the blow pits are affected by many of the same factors that affect strength. Control of combined in cooking acid is important as a deficiency may seriously affect all three of the above qualities. A high excess of combined may lead to liming troubles. This can readily be determined by the Sander test as recommended by the Forest Products Laboratory, or by gravimetric analysis.

Penetration of acid in cooking has a very important effect on all three qualities. In our case, we are equipped with a hot acid system, and two digesters are normally filled and allowed to "soak," with hot acid over the week-end. A very pronounced improvement in color, strength and cleanliness has always been noted on these cooks.

Many other factors such as cleaning of wood, screen room equipment and operation, etc., enter into the item of pulp cleanliness, but these are beyond the scope of this paper.

Yield

The amount of screened pulp which is obtained per 100 pounds of wood (both on the same dry basis) is referred to as "yield." This is influenced by such factors as kind and condition of wood, "hardness" or chlorine number of pulp, method of cooking, and the amount of waste and rejection losses. It is in the determination and control of yield that this system of measurement is particularly valuable. Table V shows the results of two cooks obtained by comparing wood of only fair quality with wood that was definitely poor in quality.

TABLE V

	Fair	Poor
Tons a. d. wood used	19.77	18.65
Per cent moisture in wood	29.8	34.6
Per cent chipper dust waste	1.60	2.15
Specific gravity	0.339	0.333
Per cent lignin	31.82	39.21
Caustic solubility	23.69	37.86
Tons pulp screened	8.94	7.70
Chlorine number	4.55	4.79
Per cent yield	45.3	41.3
Per cent tailings	2.02	2.96
Per cent knotter rejections	0.77	1.36

You will note in particular that with poor wood, the tons wood per digester, tons pulp, and yield were lower, while the per cent lignin, caustic solubility, and waste at the chippers and screens were higher.

The "soaking" of digesters referred to above improves penetration, and increases in yield of as much as 4 to 7 per cent have been found over our regular method of cooking.

Table VI shows the relationship between chlorine number and yield.

TABLE VI.—RELATION OF CHLORINE NUMBER TO YIELD

Chlorine No.	Yield
2.74	40.6
4.89	44.7
5.47	45.2

Most of the increase in yield due to higher chlorine number can be attributed to the amount of lignin remaining in the pulp, but we have never been able to account

for all of it in that way. Apparently we can not remove lignin without attacking the cellulose to some extent.

Undoubtedly, if yield figures could have been obtained separately on the cooks listed in Table IV, a considerably higher yield would have been found with the 10.5 and 12 hour cooks than with the 7 or 8 hour cooks. Tests run here and at other mills have indicated increases in yield of as much as 10 per cent between 8 and 10 hour cooks.

Fiber losses at blow pits, and rejections from the knot and tailings screens can often be the cause of low yields. The rejections increase with chips that are too long or contain too many knots and slivers. Poor penetration, improper handling of relief, cooking temperature schedules, very hard stock, and weak acid can often decidedly increase rejections, and bear frequent checking and close control. A good yield system shows when something is wrong and furnishes a good guide for locating the difficulty before too serious a damage is done.

Sulphur Consumption

The principal losses of sulphur occur in the form of SO_3 in the acid plant, loss of SO_2 out of the absorption system, acid and gas leaks, and SO_2 in the blow liquor.

Preventing acid and gas leaks is a maintenance problem and need not be discussed here. Loss in the acid plant as SO_3 with the usual rotary sulphur burner can become quite a serious affair especially with leaks in the system and with careless operators who do not pay close attention to drafts and sulphur regulation. In one case, the loss was reduced from about 3 per cent to less than 0.5 per cent by repairing leaks in the cooler and cast iron manifold to cooler. In another case, the routine analysis showed over 5 per cent loss where it had been 0.5 per cent before. An investigation disclosed a leak in the combustion chamber which might not otherwise have been found until considerable waste might have occurred. This test is conveniently carried out either on the burner gas or the system acid. Here again, instruments play an important part, and a good SO_2 recorder, pyrometer and vacuum gauge are almost indispensable.

Gas loss out of towers may be considerable if not analyzed periodically. Sometimes a different quality of stone as to solubility and the per cent insoluble matter is advisable. Again it may be necessary to change the size of stone, temperature, distribution of water and acid, etc., to reduce or eliminate loss. The extent of this loss may be from almost nothing to 25 or more pounds per ton pulp.

The SO_2 loss in blow liquor can easily amount to a large figure. An iodine test on the cooled liquor before blowing will readily reveal this. The usual answer is lower blow off pressure. To accomplish this with a long cook is not difficult, but with a short cook ample relief capacity is necessary to do it in a short time.

Another source of loss of sulphur which is more important from the standpoint of inconvenience and lost time than from actual sulphur loss is liming. Most often liming is caused by SO_3 formation, usually from the acid plant, or monosulphite precipitation due to excessive combined, or temporary lack of free SO_2 to keep the combined in solution. An analysis of the lime as to sulphite and sulphate will usually reveal the origin, so as to be able to correct it.

So far, we have dealt mostly with losses of sulphur. The largest factor in sulphur consumption is usually the actual sulphur requirements of the wood. There seems to be some question as to exact forms in which the sulphur leaves the system with the waste liquor, but it is generally conceded that it is closely tied up with lignin removal. It is evident that the larger the amount of lignin to remove the greater the minimum sulphur consumption. For this reason, it is rather important to know the amount of lignin in the wood and also the amount of lignin remaining in the pulp. The chlorine number is an indication of the amount of lignin in the pulp. Obviously then, since a higher chlorine number means less lignin to be removed, and also higher yield, the sulphur consumption decreases as the chlorine number increases. The quantity of lignin in the wood is very important. Hemlock contains more than spruce, and in the more common types of decay, the cellulose is destroyed more rapidly than the lignin, causing a gradual increase in the per cent lignin. When the sulphur consumption deviates too much from normal, a close check up will usually reveal the cause.

Summary

A series of tables are presented showing the relationships between many variables in sulphite pulping. The magnitude of these vary with the individual mill, but in any mill suitable measuring equipment such as described is necessary in order to effectively control these variables. Some of the more important variables discussed are:—

1. Wood.

a. Reducing chipper speed decreased the amount of chipper waste by 1.5 per cent of the wood consumed.

b. More frequent changing of knives often reduced chipper waste by 0.55 per cent of the wood consumed.

c. Variations in tons of dry wood per cook, due to varying moisture content were found to range between —12 and +6 per cent from average.

2. Yield.

a. Increase in yield of 10 per cent was due to better wood quality.

b. Increase in yield of 11 per cent was due to higher chlorine number.

c. Increase in yield of 10 per cent and over was due to longer cooking time have been noted.

d. Increases in yield of 4 to 7 per cent was due to better penetration have been noted.

3. Sulphur.

a. Sulphur losses due to SO_3 in acid plant, loss of SO_2 out of towers, and loss of SO_2 in blow liquor can often amount to 10 to 50 or more pounds per ton pulp, and should be frequently checked.

b. Sulphur requirements of wood may vary widely due to fluctuations in amount of lignin to be removed.

In the sulphite mill of yesterday we were concerned mostly with production. A large production would often overshadow efficiency. Little time was spent on efficiency variables except in so far as they affected production. For lack of suitable instruments it was often necessary to "fly blind."

The mill of tomorrow will have more measuring and controlling instruments and devices, so that the proportion of time that we will be "flying blind" will become less and less. In particular, we will require a more accurate accounting of our raw materials, particularly wood and sulphur, and of our source of heat. We will need an accurate continuous record of the weight of wood and sulphur entering the system and also the weight of the various forms in which it leaves the system. This will be necessary in order to locate and evaluate, and thereby eventually eliminate needless waste. The same applies to the source of heat.

Literature Cited

(1) Lear, R. K. Paper Trade J. 98, No. 26:65-68 (June 28, 1934).
(2) Garrigan, J. F. Paper Trade J. 99, No. 1:40-42 (July 5, 1934).

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING MAY 25, 1935

CIGARETTE PAPER

Max Speigel & Son, Pr. Polk, Genoa, 32 bls. American Machine & Foundry Co., Cypria, Barcelona, 4 cs.

WALL PAPER

R. F. Downing & Co., American Merchant, London, 1 ble. ———, A. Ballin, Bremen, 3 cs., 1 ble.

WALL BOARD

A. H. Morner, Carplaka, Sundsvall, 170 bdls. Treetex Corp., Carplaka, Horneborg, 2160 bdls. Johaneson Wales & Sparre, Inc., Gripsholm, Gothenburg, 84 bdls.

NEWSPRINT

N. Y. Tribune, Markland, Liverpool, N. S., 1586 rolls. World Telegram, Markland, Liverpool, N. S., 552 rolls. Bridgeport Herald, Markland, Liverpool, N. S., 69 rolls. Brooklyn Daily Eagle, Markland, Liverpool, N. S., 373 rolls. Gilman Paper Co., Markland, Liverpool, N. S., 422 rolls. Jay Madden Corp., Berlin, Bremen, 423 rolls. N. Y. Evening Journal, Inc., Consul, Corfitzon, Quebec, 3898 rolls. ———, Stavangerfjord, Oslo, 291 rolls, 66 bls. Parsons & Whittemore, Inc., Stavangerfjord, Oslo, 39 rolls. Perkins Goodwin & Co., A. Ballin, Hamburg, 377 rolls. Jay Madden Corp., A. Ballin, Bremen, 135 rolls.

PRINTING PAPER

E. Dietzgen & Co., Cypria, Marseilles, 5 cs. L. A. Consmiller, Berlin, Bremen, 19 cs. E. Dietzgen & Co., Berlin, Bremen, 35 cs. Oxford University Press, Laconia, Liverpool, 6 cs. ———, Boschdyk, Rotterdam, 24 bls. Phoenix Shipping Co., A. Ballin, Hamburg, 6 cs. Steiner Paper Corp., A. Ballin, Bremen, 21 cs. E. Dietzgen & Co., A. Ballin, Bremen, 9 cs.

WRAPPING PAPER

H. Reeve Angel & Co., Inc., Pennland, Antwerp, 1 cs. National Pulp & Paper Co., Inc., Gripsholm, Gothenburg, 2222 rolls, 90 bls. Yardley & Co., Majestic, Southampton, 7 cs. Borden Riley Paper Co., A. Ballin, Hamburg, 13 cs.

WRAPPING PAPER BAGS

J. B. Mast & Co., Rex, Genoa, 10 cs.

FILTER MASSE.

A. W. Fenton, A. Ballin, Bremen, 80 bls.

FILTER COMPOUND

H. Reifenberg, A. Ballin, Hamburg, 100 cs., 40 bls.

FILTER PAPER

H. Reeve Angel & Co., Inc., American Merchant, London, 5 cs. C. Schleicher & Schull Co., Inc., A. Ballin, Hamburg, 6 cs., 1 ble.

SURFACE COATED PAPER

Globe Shipping Co., Berlin, Bremen, 11 cs. Gevaert Co. of America, Pennland, Antwerp, 13 cs. K. Pauli Co., A. Ballin, Hamburg, 1 cs. Phoenix Shipping Co., A. Ballin, Hamburg, 1 cs.

COATED PAPER

Chas. Happel, A. Ballin, Hamburg, 4 cs.

METAL PAPER

K. Pauli Co., A. Ballin, Bremen, 15 cs.

PHOTO PAPER

J. J. Gavin, Majestic, Southampton, 5 cs. ———, Majestic, Southampton, 1 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., American Shipper, Liverpool, 13 cs (duplex); 3 cs (simplex).

DECALCOMANIAS

Sellers Transportation Co., A. Ballin, Hamburg, 5 cs.

TRANSFER PAPER

———, A. Ballin, Hamburg, 4 cs.

COLORED PAPER

International F'd'g Co., A. Ballin, Hamburg, 6 cs.

GUMMED PAPER

Meadows Wye & Co., Majestic, Southampton, 3 cs.

BOWL PAPER

Blauvelt Wiley Paper Manfg. Co., Caledonia, Glasgow, 4 bls. Hurley Johnson Corp., Laconia, Liverpool, 8 bls.

GREASE PROOF PAPER

Parsons & Whittemore, Inc., Gripsholm, Gothenburg, 2 rolls.

CARD BOARD

American Express Co., Majestic, Southampton, 4 cs. American Express Co., A. Ballin, Hamburg, 40 cs.

PASTE BOARD

———, Berlin, Bremen, 45 bls. ———, A. Ballin, Bremen, 35 bls.

PAPER TUBES

———, A. Ballin, Hamburg, 60 ctn., 10 cs.

MISCELLANEOUS PAPER

Walker Goulard Plehn Co., Gripsholm, Gothenburg, 2 pkgs. Kraemer & Co., Gripsholm, Gothenburg, 122 bls. Chase National Bank, Gripsholm, Gothenburg, 2397 rolls. The Borregaard Co., Inc., Gripsholm, Gothenburg, 123 bls., 1404 rolls. Blauvelt Wiley Paper Manfg. Co., Gripsholm, Gothenburg, 11 bls., 12 rolls. Wilkinson Grey & Co., Gripsholm, Gothenburg, 13 cs. F. L. Kramer & Co., Gripsholm Gothenburg, 341 rolls. Moller Products Corp., Ryoyo Maru, Yokohama, 11 cs. Standard Products Corp., Noshirb Maru, Yokohama, 10 cs. H. Reeve Angel & Co., Inc., Noshirb Maru, Yokohama, 3 cs.

RAGS, BAGGINGS, ETC.

W. Steck & Co., Gitano, Hull, 50 bls. old strings. S. Birkenstein & Sons, Cypria, Barcelona, 171 bls. rags. ———, Cypria, Barcelona, 175 bls. rags. Chase National Bank, American Shipper, Manchester, 23 bls. old strings.

Leigh Textile Co., American Shipper, Manchester, 38 bls. cotton waste. Royal Manfg. Co., American Shipper, Manchester, 50 bls. cotton waste. ———, American Shipper, Manchester, 51 bls. cotton waste. E. J. Keller Co., Inc., Pr. Polk, ———, 173 bls. rags. E. J. Keller Co., Inc., Black Eagle, ———, 30 bls. bagging. Darmstadt Scott & Courtney, Black Eagle, Antwerp, 102 bls. jute waste. ———, Black Eagle, Antwerp, 79 bls. cotton waste. Royal Manfg. Co., Black Eagle, Antwerp, 40 bls. cotton waste. N. Schwab & Sons, Inc., Black Eagle, Antwerp, 84 bls. cotton waste. ———, Ryoyo Maru, Kobe, 75 bls. cotton waste. H. Schimmel, Ryoyo Maru, Yokohama, 175 bls. cotton waste. Philadelphia National Bank, Ryoyo Maru, Yokohama, 200 bls. cotton waste. California Sanitary Rag Co., Ryoyo Maru, Yokohama, 45 bls. cotton waste. ———, Boschdyk, Rotterdam, 55 bls. cotton waste. F. Stern, Boschdyk, Rotterdam, 150 bls. rags. T. Robertson & Son, Noshiro Maru, Shanghai, 50 bls. cotton waste. ———, Noshiro Maru, Shanghai, 50 bls. cotton waste. Castle & Overton, Inc., Collamer, Havre, 51 bls. bagging. E. J. Keller Co., Inc., Exeter, ———, 78 bls. paper stock. E. J. Keller Co., Inc., Adderstone, ———, 55 bls. paper stock.

GLUE STOCK

American Express Co., Laconia, Liverpool, 474 bags hide cuttings. ———, A. Ballin, Bremen, 60 bags hide glue.

CHINA CLAY

Whitaker Clark & Daniels, Laconia, Liverpool, 390 bags.

CASEIN

———, A. Ballin, Hamburg, 60 bags.

WOOD PULP

———, Belos, Hernosand, 900 bls. sulphate 150 tons. Bulkley Dunton & Co., Belos, ———, 700 bls. wood pulp 125 tons. Gottesman & Co., Inc., Belos, Sundsvall, 1350 bls. mechanical 225 tons. Johaneson Wales & Sparre, Inc., Belos, Sundsvall, 1500 bls. sulphite 300 tons. Mead Sales Co., Inc., Belos, Sundsvall, 250 bls. sulphite 50 tons. Price & Pierce, Ltd., Carplaka, Wallvik, 900 bls. sulphite 150 tons. Perkins Goodwin & Co., Carplaka, Sundsvall, 450 bls. sulphite 75 tons; 2250 bls. sulphate 375 tons. M. Sone, Carplaka, Gdynia, 649 bls. wood pulp 100 tons. E. J. Keller Co., Inc., Carplaka, ———, 336 bls. wood pulp 50 tons. Stora Kopparberg Corp., Gripsholm, Gothenburg, 1500 bls. dry pulp. Johaneson Wales & Sparre, Inc., Gripsholm, Gothenburg, 500 bls. sulphate; 748 bls. kraft soda pulp. Perkins Goodwin & Co., Gripsholm, Gothenburg, 127 bls. sulphate. D. M. Hicks, Inc., Gripsholm, Gothenburg, 150 bls. sulphite. The Borregaard Co., Inc., Stavangerfjord, Sarpsborg, 840 bls. sulphate. Perkins Goodwin & Co., Stavangerfjord, Drammen, 250 bls. sulphite. Irving Trust Co., Stavangerfjord, Oslo, 1570 bls. mechanical. Chemical Bank Trust Co., Stavangerfjord, Oslo, 600 bls. sulphite. Castle & Overton, Inc., A. Ballin, Hamburg, 541 bls. wood pulp 108 tons. Bulkley Dunton & Co., Veendam, ———, 480 bls. wood pulp.

PORTLAND IMPORTS

WEEK ENDING MAY 25, 1935

Gottesman & Co., Inc., Gresiheim, Sweden, 2350 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING MAY 25, 1935

Elliott Addressing Machine Co., Pr. Lincoln, Yokohama, 7 cs. paper. Brown Bros., Harriman & Co., American Merchant, London, 66 coils old rope. Crocker Burbank Co., American Merchant, London, 153 bls. waste paper. D. C. Andrews & Co., Laconia, Liverpool, 7 bls. bowl paper. ———, Laconia, Liverpool, 11 bls. rags. G. F. Malcolm, Inc., Laconia, Liverpool, 5 cs. tissue paper. Brown Bros., Harriman & Co., Laconia, Liverpool, 17 bls. cotton waste. Atkinson Haserick & Co., Pr. Polk, Genoa, 16 cs. paper. Royal Manfg. Co., Black Eagle, Antwerp, 221 bls. cotton waste. American Express Co., Black Eagle, Antwerp, 26 rolls wrapping paper. C. H. Powell & Co., Boschdyk, Rotterdam, 288 rolls straw boards. J. J. Ryan & Son, Inc., Boschdyk, Rotterdam, 10 bls. cotton waste. J. Cohen & Son, Boschdyk, Rotterdam, 8 bls. rags. Gottesman & Co., Inc., Haimon, Czecho-Slovakia, 1337 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING MAY 25, 1935

Gilman Paper Co., Markland, Liverpool, N. S., 1903 rolls newsprint. A. Bunge, Markland, Liverpool, N. S., 7934 bls. wood pulp screenings. Mead Sales Co., Inc., Belos, Sundsvall, 1200 bls. sulphite 200 tons. Johaneson Wales & Sparre, Inc., Belos, Sundsvall, 400 bls. sulphite 80 tons; 180 bls. sulphate 30 tons. Bulkley Dunton & Co., Belos, ———, 1500 bls. wood pulp 300 tons. ———, Carplaka, Norrsundet, 1875 bls. sulphate 403 tons. Price & Pierce, Ltd., Carplaka, Wallvik, 300 bls. sulphite 50 tons; 250 bls. mechanical 50 tons. Perkins Goodwin & Co., Carplaka, Sundsvall, 450 bls. sulphite 75 tons. R. F. Downing & Co., Boschdyk, Rotterdam, 137 bls. rags. Bank of N. Y. Trust Co., Boschdyk, Rotterdam, 259 bls. wood pulp. J. M. Maris & Co., Collamer, Havre, 8 cs. filter paper. Castle & Overton, Inc., Collamer, Havre, 40 bls. new cuttings; 157 bls. rags. J. H. Weil & Co., Collamer, Havre, 8 cs. printing paper. Darmstadt Scott & Courtney, Collamer, Dunkirk, 86 bls. flax waste. Gottesman & Co., Inc., City of Havre, Latvia, 1016 bls. wood pulp.

CAMDEN IMPORTS

WEEK ENDING MAY 25, 1935

———, Belos, Hernosand, 3000 bls. sulphate 500 tons.

BALTIMORE IMPORTS

WEEK ENDING MAY 25, 1935

———, Belos, Hernosand, 2610 bls. sulphate 435 tons. Bulkley Dunton & Co., Belos, ———, 2000 bls. wood pulp 400 tons. Mead Sales Co., Inc., Belos, Sundsvall, 4998 bls. sulphite 833 tons. Atterbury Bros., Inc., Belos, Sundsvall, 300 bls. mechanical 50 tons. Johaneson Wales & Sparre, Inc., Belos, Sundsvall, 900 bls. sulphate 150 tons; 955 bls. sulphite 185 tons. Castle & Overton, Inc., Boschdyk, Rotterdam, 909 bls. wood pulp. National City Bank, Boschdyk, Rotterdam, 344 bls. rags. ———, Noshiro Maru, Kobe, 206 bls. rags. Scherman Bros., Noshiro Maru, Kobe, 60 bls. rags. Gottesman & Co., Inc., Greisheim, Sweden, 600 bls. wood pulp. Gottesman & Co., Inc., Teneriffa, Sweden, 500 bls. wood pulp. Bulkley Dunton & Co., Vigor, ———, 1500 bls. wood pulp.

NEWPORT NEWS IMPORTS

WEEK ENDING MAY 25, 1935

Gottesman & Co., Inc., Teneriffa, Sweden, 1000 bls. wood pulp. Bulkley Dunton & Co., Black Osprey, ———, 257 bls. wood pulp.

MONTREAL IMPORTS

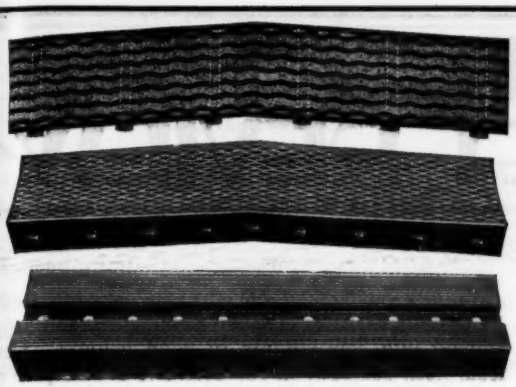
WEEK ENDING MAY 25, 1935

Gottesman & Co., Inc., Braheholm, Sweden, 1500 bls. wood pulp.

NEW ORLEANS IMPORTS

WEEK ENDING MAY 18, 1935

Gottesman & Co., Inc., Vasaholm, Sweden, 2000 lbs. wood pulp.



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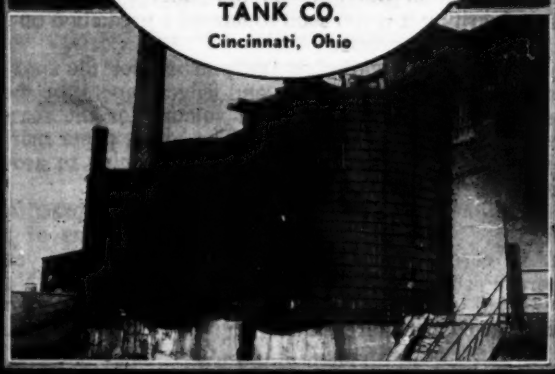

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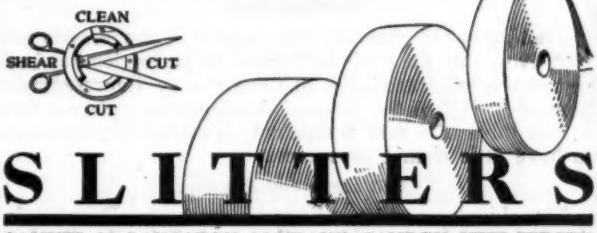

SLITTERS

SAMUEL M. LANGSTON COMPANY, CAMDEN, NEW JERSEY

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New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, May 29, 1935.

Practically the sole topic of conversation in the paper industry since Monday is the adverse decision of the Supreme Court upon the National Recovery Act, and what effect the action will have on the paper market. At the time of writing it is too soon to hazard a prediction on the future course of events.

The fine paper market is fairly active for the time of year and book, cover, writing and ledger papers are moving into consumption in normal volume for the season. Tissues are in moderate request. The coarse paper market is steady and summer specialties are beginning to arouse more interest. Prices are holding to schedule.

Conditions in the newsprint paper market are practically unchanged. Advertising lineage and circulations of the leading newspapers are still running ahead of last year's record. Production in the United States, Canada and Newfoundland is being maintained in sufficient volume to take care of current requirements.

Mechanical Pulp

The ground wood pulp market is marking time. With manufacturing operations in the United States and abroad keyed to consumption as far as possible, the statistical position of the industry is considered sound. Prices are generally holding to previously quoted levels and reports of concessions are infrequent.

Chemical Pulp

Trading in the chemical pulp market is moderately active. Now that the trade agreement with Sweden has been signed the bill introduced in Congress by Representative Samuel B. Hill of the State of Washington to place a duty of one-third of a cent per pound on imported pulp seems to have little chance of success.

Old Rope and Bagging

The old rope market is listless at present. Demand for domestic and foreign old manila rope is light. Small mixed rope is only moving slowly. Old rope prices remain unchanged. The bagging market is steady. Scrap and gunny bagging are fairly active. Roofing bagging is in seasonal request. Prices are well sustained.

Rags

Business in the domestic rag market is rather quiet. Demand for new and old cotton rags is restricted, with the exception of grades required for export, including No. 1 white shirt cuttings. Roofing rags are exhibiting a stronger undertone. The imported rag market is dull and is still influenced by fluctuations in foreign exchange.

Waste Paper

The paper stock market continues in the doldrums. Board mill demand for the lower grades is slow. Quotations on strictly folded news and No. 1 mixed paper are soft. The higher grades are irregular. Hard white envelope cuttings are easier and are now quoted at from 2.50 to 2.60 f.o.b. New York. Other grades are fairly steady.

Twine

Steadiness prevails in the local twine market. Demand for the various varieties is fairly satisfactory and supplies are moving into consumption in good volume. Despite the usual keen competition for desirable orders prices are generally holding to schedule and reports of shading are infrequent.

Trade Agreement With Sweden

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 29, 1935—The State Department has announced the trade agreement between the United States and Sweden.

Included in the agreement is a pledge to keep bleached and unbleached sulphate wood pulp and unbleached sulphite wood pulp on the free list for a three year period. This is supposed to be the chief American concession. Following are the paper items included showing the paragraph number of our bill of 1930 together with the new rate of duty under the agreement for the importation of Swedish paper and paper products:

Tariff Act of 1930 paragraph	*Description of Articles*	*Rates of Duty*
1402	Paper board, wallboard, and pulpboard, including cardboard, and leatherboard or compress leather, not plate finished, supercalendered or friction calendered, laminated by means of an adhesive substance, coated, surface stained or dyed, lined or vat-lined, embossed, printed, decorated, or ornamented in any manner, nor cut into shapes for boxes or other articles and not specially provided for, except pulpboard in rolls for use in the manufacture of wallboard	10% ad val.
1409	Wrapping paper not specially provided for, except straw paper	25% ad val.
1413	Paper board and pulpboard, including cardboard and leatherboard or compress leather, plate finished, supercalendered or friction calendered, laminated by means of an adhesive substance, coated, surface stained or dyed, lined or vat-lined, embossed, printed, or decorated or ornamented in any manner	$14.50 per ton of 2,000 lbs., but not less than 15% nor more than 30% ad val.
1716	Sulphate wood pulp, bleached and unbleached, and sulphite wood pulp, unbleached	Free

Germany Imports More Pulpwood

WASHINGTON, D. C., May 27, 1935—Germany is at all times greatly dependent upon foreign pulp wood, owing to insufficient forest resources to meet the demands of the pulp and paper as well as other forests industries, according to a report from Consul J. F. Huddleston, Dresden. German imports of pulpwood in 1934 are reported to have reached a figure of 3,018,303 metric tons compared with 2,473,703 metric tons in the preceding year.

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, May 29, 1935.

BLANC FIXE.—Demand for blanc fixe is fairly active. Prices are holding to previously quoted levels. The pulp is quoted at from $42.50 to $45 per ton, in bulk; while the powder is selling at from 3½ cents to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market is displaying a steady undertone. Shipments against contract are moving at a normal pace. Quotations remain unchanged. Bleaching powder is selling at from $1.90 to $2.15 per 100 pounds, in drums, at works.

CASEIN.—The casein market is firm. Domestic standard ground is quoted at 12 and finely ground at 12½; Argentine standard ground at 13 and finely ground at 13¼; French standard ground at 13¼ and finely ground at 13½ cents per pound, in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market. Contract shipments are moving freely. Prices are unchanged. Solid caustic soda is quoted at from $2.60 to $3.10; while the flake and ground are selling at from $3 to $3.05 per 100 pounds, in drums, at works.

CHINA CLAY.—The position of the china clay market is practically unchanged. Shipments against contract are normal. Imported china clay is quoted at from $13.50 to $21 per ton, ship side; while domestic paper making clay is selling at from $6.50 to $12 per ton, at mine.

CHLORINE.—Paper mill demand for chlorine is well sustained. The contract movement is well up to average. Prices are steady to firm. Chlorine is still quoted at from $2 to $2.40 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is stronger. Paper making gum rosin is now quoted at $4.60 and wood rosin at $4.35 per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent rosin size is selling at $2.63 per 100 pounds, in tank cars, at works.

SALT CAKE.—Business in the salt cake market is practically marking time. Prices are steady. Salt cake is quoted at from $12 to $13 and chrome salt cake at from $11 to $12 per ton, at works. Imported salt cake is selling at from $12 to $13 per ton, on dock.

SODA ASH.—The soda ash market is holding up well. Shipments against contract are moving regularly. Prices are holding to schedule. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.05; in bags, $1.20; and in barrels, $1.50.

STARCH.—The starch market is fairly buoyant for the time of year. Contract shipments are going forward steadily. Prices are firmer. Special paper making starch is quoted at $3.59 per 100 pounds, in bags; and at $3.86 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Supplies of sulphate of alumina are moving into consumption in good volume. Prices are firm. Commercial grades are quoted at from $1.35 to $1.50; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Conditions in the talc market are unchanged. While the prevailing demand is light, prices are steady. Domestic talc is quoted at from $16 to $18 per ton, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on dock.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	—
Bonds	6.00	@	—
Index	6.00	@	—
Writings—			
Extra Superfine	6.50	@	—
Superfine	6.25	@	—
Tub sized	5.75	@	—
Engine sized	5.50	@	—
Book, Cased—			
S. & S. C.	5.35	@	5.75
S. & S. C. Litho	5.60	@	6.00
M. F.	5.10	@	5.50
Coated and Enamel	5.90	@	6.55
Coated Litho	5.90	@	6.55
Tissues—Per Ream—			
White No. 1	.82½	@	.85
White No. 2	.67½	@	—
Anti-Tarnish M. G. only	1.00	@	—
Colored	.85	@	—
Kraft	.70	@	—
Manila	.67½	@	.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	4.00	@	4.50
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.50	@	3.50
Glassine—			
Bleached	.11	@	—
Unbleached	.09	@	—

(The following Quotations are Delivered New York)

News, per ton—			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Kraft—			
No. 1 Northern	4.12½	@	4.75
Standard	4.00	@	—
Southern	3.87½	@	—
Boards—per ton—			
News	40.00	@	42.50
Chip	37.50	@	40.00
Sgl. Mla. Ll. Chip	45.00	@	47.50
Jute Lined Chip	45.00	@	47.50
White Patent Coated	55.00	@	57.50
Binders Boards	67.00	@	75.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	21.00	@	22.00
Dry	21.00	@	22.00
(F.o.b. Mill)			
No. 1 Domestic and Canadian	18.00	@	24.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Division 1	2.60	@	—*
Division 2	2.55	@	—*
Division 3	2.50	@	—*
Prime Qualities—			
Class 1. All Prime Easy Bleaching	2.05	@	—*
Other Than Easy Bleaching—			
Class 2. Higher Than Standard	2.00	@	—*
Class 3, Standard	1.95	@	—*
Class 4. Lower than Standard	1.90	@	—
(On Dock, Atlantic Ports)			
Kraft No. 1	1.70	@	1.80
Kraft No. 2	1.50	@	1.60
(F.o.b. Pulp Mill)			
Kraft Domestic	1.70	@	2.35
(Delivered)			
Soda Bleached	2.50	@	—

*Add 60 Cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	5.75	@	6.00
Silesias No. 1	3.75	@	4.00
New Unbleached	6.25	@	6.50
New Soft Blacks	3.00	@	3.25
Blue Overall	7.50	@	3.75
Fancy	.50	@	2.75
Washables	1.75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	3.75	@	4.00
Men's Corduroy	1.50	@	1.75
New Mixed Blacks	2.50	@	2.75

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
White, No. 2—			
Repacked	1.75	@	2.25
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Black Stockings	2.50	@	3.00
Roofing Rags—			
No. 1	1.20	@	1.30
No. 2	1.10	@	1.15
No. 3	.95	@	1.00
No. 4	.95	@	1.00
No. 5A	.80	@	.85

Foreign Rags

New Rags

New Dark Cuttings	1.75	@	1.85
New Mixed Cuttings	1.80	@	1.90
New Light Silesias	3.75	@	4.00
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.50	@	6.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.75	@	3.00

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.75	@	1.85
French Blue Linens	2.30	@	2.40
German Blue Linens	2.15	@	2.25
German Blue Cottons	1.70	@	1.80
Checks and Blues	1.30	@	1.40
Linsey Garments	1.50	@	1.65
Dark Cottons	1.15	@	1.25
Old Shopperies	1.00	@	1.05
New Shopperies	.95	@	1.05
French Blues	1.70	@	1.80

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.40	@	1.50
Wool Tares, light	1.40	@	1.50
Wool Tares, heavy	1.50	@	1.60
Bright Bagging	1.40	@	1.50
Manila Rope—			
Foreign	1.85	@	2.00
Domestic	1.75	@	2.00
Small Mixed Rope	1.10	@	1.35
New Burlap Cut	2.00	@	2.35
Hessian Jute Threads—			
Foreign	2.60	@	2.70
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.50	@	2.60
Ordinary Hard White No. 1	2.10	@	2.15
Hard White No. 2	1.90	@	2.00
Soft White No. 1	1.70	@	1.80
Flat Stock—			
Stitchless	.65	@	.75
Over issue Mag.	.65	@	.75
Solid Flat Book	.45	@	.50
Crumpled No. 1	.35	@	.40
Solid Book Ledger	1.50	@	1.65
Ledger Stock	1.00	@	1.10
New B. B. Chips	.30	@	.35
Manilas—			
New Env. Cut	1.70	@	1.80
New Cuttings	1.35	@	1.40
Print	Nominal		
Bogus Wrapper	.40	@	.50
Container	Nominal		
Old Kraft Machine—			
Compressed bales	1.10	@	1.20
News—			
No. 1 White News	1.20	@	1.30
Strictly Overissue	.60	@	.65
Strictly Folded	.25	@	.30
No. 1 Mixed Paper	.15	@	.20

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